The RUBBER AGE

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VOL. 31, NO. 11 — SEPTEMBER 10, 1932

LATE NEWS of the Industry

Fisk Reorganization Plans Are Completed Involving Cash Distributions

All Parties Agree to Plan of Committee . . . Company Will Continue to Operate . . . Goodrich Sells Controlling Interest in Hood to Group of Former Executives . . . Sears, Roebuck Raises Tire Prices.

THAT the plans for the reorganization of the Fisk Rubber Company had been completed, was announced August 29, by the committee in charge, comprising Orrin G. Wood, chairman; Karl H. Behr, Carl P. Dennett, William E. Gilbert, Harold P. Janisch, Theodore G. Smith, W. B. Stratton, John C. Traphagen and John N. Willys. The receivers, Charles A. Dane and John Pierce, have recommended acceptance of the plan.

There is to be a cash distribution of $400 for each $1,000 bond and $370 for each $1,000 note, and it is proposed to form a successor operating company to continue the Fisk business and a real estate company into which will be placed certain mortgaged property not required by the operating company.

The operating company will have an authorized capitalization of $4,000,000 6 per cent preferred stock, cumulative after January 1, 1934, and 400,000 common shares, in addition to such additional stock, not exceeding 300,000 shares, as may be subscribed for by stockholders of the old company. It is proposed to distribute all the issued preferred stock, together with about 400,000 common shares, to the holders of bonds and notes and other creditors, the last representing a small amount.

Stockholders will have rights until October 10 to subscribe for about 300,000 common shares for cash at $2.50 a share.

The new operating company, besides acquiring the goodwill of the Fisk Rubber Company, will acquire the rubber plant at Chicopee Falls and the tire-fabric plant at New Bedford, Mass., as well as other of the old company's tire-fabric plants as may be decided upon by the reorganization committee. The new operating company will have no bank debt or bonds. The present management will be continued. Mr. Dana will act as chairman of the board.

Stock in the real estate company will be distributed on a pro rata basis to the holders of the first mortgage bonds. This company will acquire property pledged under the first mortgage bonds not acquired by the operating company, including the rubber plants at Cudahy, Wis.; certain cotton-fabric mill property and the stock of the Fisk Building in New York. The assets in the new company will be liquidated as early as practicable for the bondholders.

The reorganization provides that each $1,000 bondholder shall receive $400 in cash, $300 in preferred stock and thirty shares of common stock of the new operating company, together with his pro rata interest in the real estate company. Each holder of a $1,000 5½ per cent note will receive $370 in cash, $200 in preferred stock and twenty common shares of the operating company.

Hood Officials Secure Controlling Interest From B. F. Goodrich Company

THE leading officials of the Hood Rubber Company, which has been held as a subsidiary of the B. F. Goodrich Company since August, 1929, have repurchased control of the common stock of the concern and will operate the company as in independent concern.

Under the new arrangement, the outstanding common stock of Hood Rubber, with voting power, will total 6,000 shares of which 3,300 shares will be held by the management group and the rest by B. F. Goodrich Company. In addition 120,000 shares of $6 cumulative preference stock will be issued to B. F. Goodrich Company. At any time after January 1, 1937, the preferred stock is convertible into common, share for share, and voting rights accrue to the preferred stock after that date upon failure to pay preferred dividends.

Arrangements have been made with the B. F. Goodrich Footwear Corporation, a subsidiary of the B. F. Goodrich Company, under which Hood Rubber Co., Inc., will continue to manufacture Goodrich brand footwear for distribution to the trade through the B. F. Goodrich Footwear Corporation.

Directors of Hood Rubber now consist of Mr. New-

hall, who becomes president; Raymond H. Blanchard, vice-president; Alden C. Brett, secretary; James D. Tew, president of B. F. Goodrich Company, and Shelby M. Jett, secretary of B. F. Goodrich Company.

In disclosing the transaction, Goodrich officials stated that under the combined effect of three successive unfavorable winter seasons for the sales of footwear and of the general business depression, sales volume of the rubber footwear industry declined from more than $110,000,000 in 1929, $88,000,000 in 1930, and $51,000,000 in 1931 to approximately $16,000,000 for the first six months of 1932. This decline has resulted in substantial losses generally throughout the industry, including Hood Rubber, it was said.

In acquisition of Hood in August, 1929, Goodrich formed the Hood Rubber Co., Inc., a wholly owned subsidiary, which exchanged 100,000 shares of Goodrich common stock for the outstanding common of the Hood Rubber Company, on the basis of one share of Goodrich for each two shares of Hood. In addition, the preferred stock issues of Hood Rubber Company and of Hood Rubber Products Company were paid off in cash and Hood Rubber Co., Inc., assumed all the liabilities of Hood Rubber Company, including the latter company's two note issues. These notes, however, were not assumed by B. F. Goodrich Company itself.

The Hood Rubber notes consist of the 5½s due October 15, 1936, of which $4,074,000 were outstanding at the end of 1931, and of the 7s due December 1, 1936, of which $4,524,000 were outstanding on December 31, 1931. The two issues are not secured by mortgage but would be ratably secured under any mortgage (except purchase money mortgages) placed on a substantial part of the company's property. The indenture of the 7% notes specifies that this issue may be immediately matured if the company's quick assets after deducting all other indebtedness are less than 150% of the face value of the 7% notes outstanding.

At the end of 1931, Hood Rubber had current assets of $11,845,508 and current liabilities of $1,631,257. Working capital totaled $10,214,251.

Sears Roebuck Definitely Fixes Tire Prices to Meet New Taxes

SEARS, ROEBUCK COMPANY, largest tire merchandiser of the country, on August 26, placed in the hands of store managers throughout its chain a new tire price list adjusting tire prices to absorb the federal tax.

The new price becomes effective on three days' notice, which store managers are expecting in the early future.

The list is said to be one tentatively prepared for June 21, when the federal excise on tires became effective, but abandoned at that time.

According to information received, the release on the new list will be made shortly. Sears, Roebuck Company store executives, it was declared, have no intimation that the release will be given them, however.

Meantime negotiations in New York between representatives of the mail-order houses and the tire industry looking toward price increases in the tire field have continued with no definite report of progress.

India Tire Advances Prices to Meet Increase in Federal Tax

INDIA TIRE AND RUBBER COMPANY has announced an advance in the prices of tires and tubes from 11 per cent to 15 per cent on all sizes and types effective September 3. This will place into practice for India the price schedule announced by the majority of the industry on June 21, when the Federal excise tax was put into operation. The increase, however, was never operative, due to a system of rebates used by the industry.

The new price schedule besides passing on to the customer the Federal tax will represent a slight increase over the prices prevalent before June 21.

W. G. Klauss, president, said the company had shown an increase in dollar volume of sales of 8.6 per cent in the first nine months of the present fiscal year ending October 31 over the corresponding period of the previous year, despite the appreciably lower price level.

Litchfield Expects Business Upturn To Come After the Election Campaign

DECLARING that he shared President Hoover's conviction that the nation had overcome the "major financial crisis" and that the initiative and responsibility to restore labor and agriculture to higher levels now rested with business and industrial leaders of the country, P. W. Litchfield, president of the Goodyear Tire and Rubber Company, told reporters recently that insofar as the tire industry was concerned he did not look for any marked increase in production before December or January.

Mr. Litchfield was among the business chieftains who attended the President's economic conference at the White House recently. Others from Akron were Harvey Firestone, Jr., vice-president of the Firestone Tire and Rubber Company, and J. D. Tew, president of the B. F. Goodrich Company.

"There is no doubt in my mind," Mr. Litchfield said, "that we have definitely turned the corner to trade recovery, and now that ample credit facilities have been made available by the creation of the Reconstruction Finance Corporation, business should begin to pick up at once. Commodity and agricultural prices have reached the bottom. What goes up must come down, and vice versa. Only a stagnant state of business can keep prices down, and trade is not stagnant, just dormant."

Mr. Litchfield declared that the tire industry was in a sound condition, but that like all other lines of business it had felt the effects of the depression. He said he looked for increased production during the seasonal months of December and January.

Thereafter, he pointed out, increased production would depend largely on the automotive industry and trade recovery in general. He said he fully concurred with President Hoover that the initiative to a revival of business depended in great part upon the nation's industrial leaders now that the government had made available vast credits to recreate business.

Rubber Section, Safety Council, Will Offer Interesting Program in Washington

DURING the week of October 3 to 7, many delegates from rubber plants in the United States will meet at the Wardman Park and the Shoreham Hotels in Washington, D. C., to consider practical, cooperative methods for the promotion of health and the reduction of accidents in the rubber industry.

This program for improved safety and health in rubber plants will be conducted by the Rubber Section of the National Safety Council, as a part of the Twenty-First Annual Safety Congress & Exposition. J. R. Hanson, United States Rubber Company, is acting general chairman of the Section; and H. W. Low, Miller Rubber Products Company, is secretary.

For 1931, 55 plants with an exposure of over 112,000,000 man-hours reported their accident experience to the

National Safety Council. These plants had an average of 11.78 lost time injuries per 1,000,000 man-hours worked, as contrasted with an average of 15.12 for all of the 28 major industries which reported for that year to the National Safety Council. These 55 plants reported an average of 1.03 days lost per 1,000 hours worked, which compares very favorably with an average severity rate of 1.72 for the 28 major industries for 1931.

The best detailed study of the accident experience of the rubber industry is afforded by the comparative experience of the 25 units which have been reporting during each of the past three years. The accident frequency rates for these 25 units were slightly more for 1931 than for 1930, but there has been a reduction of more than 20 per cent in frequency rates as compared with 1929. The accident severity rates for these 25 units have been less favorable, showing an increase from 1.37 in 1929 to 1.59 in 1931. Fatalities have been the most important factor in the high 1931 severity rate. There were seven deaths, three in the rubber footwear group and four in the tire manufacturing group. There were sharp contrasts in the records of different reporting companies.

What You Missed If You Did Not Attend the Denver Meeting

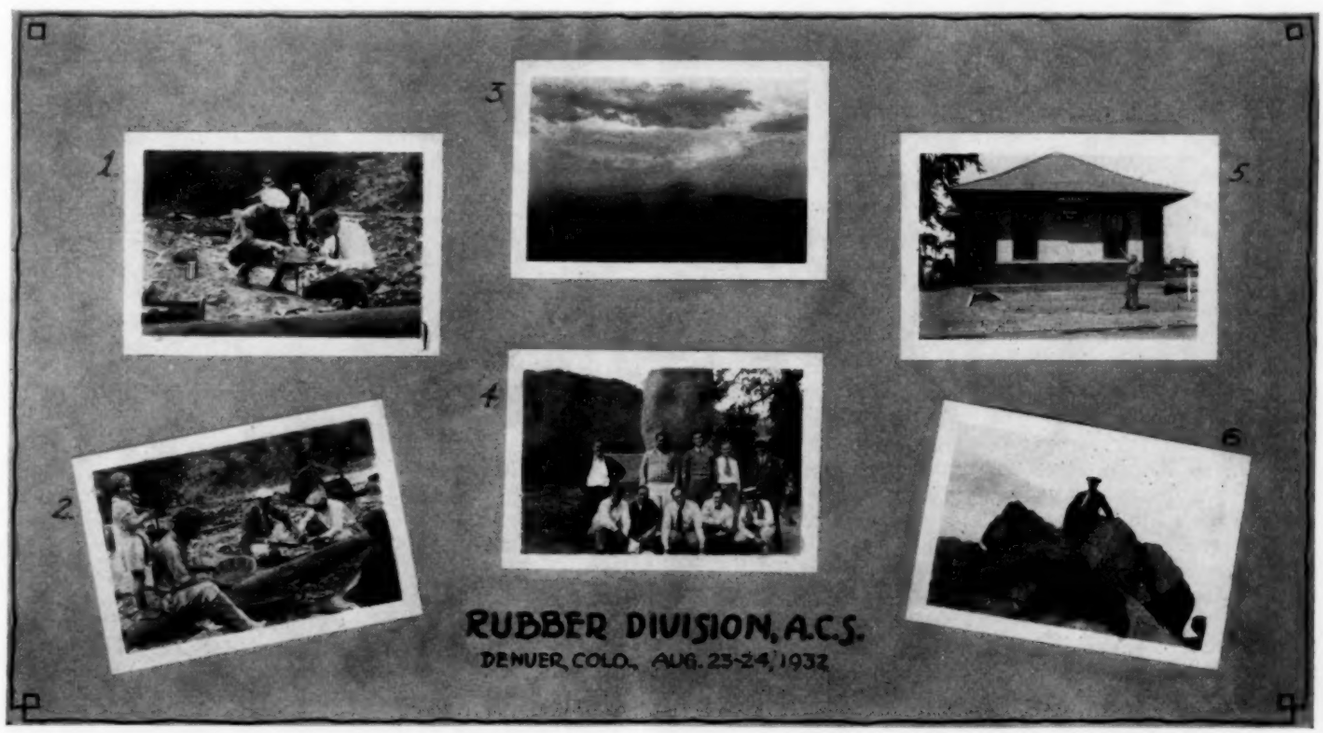
THE meeting of the Rubber Division, A. C. S., at Denver, August 23 and 24, exceeded all expectations in the matter of attendance at the sessions and was notable in the excellent entertainment program which was carried out. Over 55 members of the Division were present at both meetings and the discussion on the papers presented was very good. Abstracts of all the papers presented were published in the August 25, issue of THE RUBBER AGE.

No formal banquet was scheduled for this year but a unique dinner was served during the course of a delightful trip into the mountains, participated in by all members of the Division, by way of Echo Lake, Summit Lake and Mount Evans, then back to Genessee Mountain, where the cooks from the Gates Rubber Company had prepared a delicious broiled steak dinner and corn roast. The group was also entertained while in the mountains by the Cowboy Quartet, who broadcast over R-K-O. The outing gave an opportunity for much fun and merriment. The accompanying photographs, taken on the trip by "Bruce" Silver, testify to the scenic beauty of the region and the enjoyment experienced by the "mountain climbers and gold panners."

At the business meeting of the Division it was decided to receive the report of the nominating committee but carry out the actual election of officers by mail, and the secretary was instructed to prepare ballots accordingly.

The following nominations for officers for 1932-33 were made: Dr. L. B. Sebrell, chairman; E. B. Curtis and Ira Williams, vice-chairmen; H. E. Simmons, secretary and treasurer; C. C. Christensen and Gladding Price, sergeants-at-arms. The following executve committee was also nominated: F. W. Stavely, A. F. Pond, L. J. D. Healey, A. C. Eide, L. C. Peterson and Harold Gray.

Washington, D. C., was determined upon as the place of meeting for the Spring 1933 sessions of the Division, and a record attendance is expected.



(1) "Ernie" Bridgwater and Bruce Silver panning for gold. (2) "Curly" Curtis and "Norm" Shepard—ditto. (3) View from top of Mt. Evans. (4) Some of the mountain climbers on the way to the top of Mt. Evans, stopping at Idaho City, at the monument commemorating where gold was first discovered. (5) Walter Vogt can't keep out of Akron even in Colorado. (6) Bruce Silver at the summit of Mt. Evans.

Manufacturers' Responsibility to Their Dealers*

By V. I. MONTENYOHL

Treasurer, B. F. Goodrich Company, Akron, O.

WHILE unquestionably there is a manufacturers' responsibility to his dealers, it is one of degree and it should only be assumed after a careful analysis of the existing situation. The necessity for a relationship of responsibility is more impressive under present-day conditions than it would be under conditions which are generally referred to as "normal" or "prosperous." The need is more apparent, due to low volume of business, a constant shrinkage of values and the continuously growing demand on the part of the public for lower prices.

Admitting the necessity for a degree of responsibility on the part of the manufacturer to his dealers under present-day conditions, it is a debatable question as to the form in which that responsibility should come into being and to what extent it should be assumed by the manufacturer.

I am taking the liberty of confining my remarks to the credit feature of the problem, ignoring such factors as quality and price of merchandise, because it is plainly evident that normally the manufacturer has fulfilled his obligation to the dealer when he has supplied marketable merchandise at a competitive price together with the other merchandising helps which have become more or less standard practice.

In order to fix the degree of responsibility it is obvious that a very close study of the situation must be made to determine that the effect of the assumption of responsibility will not impair the existence of the manufacturer himself. The type of responsibility which he elects to assume must also be carefully determined.

Thorough Credit Investigation Necessary

On the assumption that it is not an easy matter for a small merchant under present-day conditions to finance a business which has probably been unprofitable, the manufacturer must make a general survey of the dealers' conditions in order to properly determine what form of help he can best extend. It might be that the dealers' conditions require but a moderate degree of assistance which could be taken care of by an adjustment of credit and collection policies or by slightly longer terms, permitting the dealer to be a little more flexible in the amount of merchandise he carries and the amount of credit he can extend. Many dealers, due to the difficulty in financing their business today, have probably restricted their credit sales, thereby reducing their volume as well as the volume of the manufacturer from whom they buy.

It is conceivable that under particularly adverse conditions it might be advisable for a manufacturer to contribute capital to a dealer, but this procedure should only be considered after his credit department has definitely determined that it is impossible for the dealer to secure the requisite financing from local sources. In that event a most careful analysis of the individual situation should first take place as the manufacturer would not be warranted in taking action of this kind unless he were almost positively assured that the capital would be returned over a reasonable period of time.

The manufacturer must also determine the purposes to which the capital must be devoted, i.e., for the purpose of carrying more merchandise, more accounts, physical improvements to the dealer's place of business, service facilities, etc. The expenditure should be carefully budgeted and controlled.

Certainly, in the event of assistance in the latter form suggested, it is necessary for the manufacturer not only to make an exhaustive investigation in the first instance, but to follow the investment of capital through the medium of monthly operating statements so that he can constantly check the progress of the business—first, to insure the proper stewardship of his capital, and second, to satisfy himself that the plan of furnishing capital is a practical one and will result in the building up of a successful dealer.

Formula for Granting Dealer Cash

In the case of capital, it would seem best for the manufacturer to develop a definite formula to be used which will determine the amount of capital which can profitably be supplied. The amount of capital should always have an exact relationship to the volume of business reasonably expected. To illustrate: A town in which a manufacturer has no distribution but by loaning a dealer $2,000 he should be able to secure an annual volume of $8,000. Let us suppose he makes a manufacturing profit of 10 per cent. He, therefore, earns a profit of $800 on an investment of $2,000 less, of course, the unusual expense involved of special supervision over the account. Obviously, if the manufacturer has the $2,000 surplus funds and the organization to follow the investment, he is justified in partially financing the dealer. If the manufacturer, however, must borrow the money to place at the risk of another man's business or lacks the organization to supervise the operation, he would do much better to sacrifice the additional volume which is in prospect.

While the policy of responsibility must be determined by the management, the actual inauguration and operation of the plan should be definitely placed with the credit and operating departments. Through contacts the credit department in particular knows the dealers' problems unusually well. Also the credit men know the individual dealer's virtues and weaknesses and are best able to judge the form and extent of any assistance granted. Furthermore, the credit department should be more practical in the original diagnosis of the case and the continuous attention which will be necessary to safeguard the investment of the manufacturer and the permanence and prosperity of the dealer.

*Abstracted from *Credit Executive*, August, 1932, with due acknowledgement.

New Trends in RUBBER FOOTWEAR*

Late Styles Feature Smartness, Appealing Material Finishes, Better Fitting Features and Lighter Construction with Improved Quality

By RUTH HARRINGTON

THE new rubber footwear introduced by the industry for Fall and Winter wear offers to shoe merchants the most advanced promotional selling advantages experienced in many seasons.

Finishes, lightweight construction, new fitting features and fastener devices adding unusual attractiveness to the footwear, should be an incentive for every shoe merchant to plan his rubber footwear selling program early and pursue this plan with vigor and selling ideas.

In the rubber footwear market, as in every business, you still find plenty of pessimists and enough optimists to keep the world going around . . . and their own business going ahead! The pessimists have put on their black gloves and black ties and are awaiting to take front seats at the funeral. The optimists are rolling up their sleeves, putting their brains to work and discovering new ways of meeting and beating their problems.

The situation that confronts the rubber footwear industry is more than a general falling off in buying. It has some troubles all its own. Gone are the good old days when novelty galoshes sold themselves just because they were something new. Women have to be tempted to buy now. Lately the seasons have been stingy with their snow, with the result that retailers have been inclined to delay until they saw a snowflake before signing an order. Prices have been footballed about adding to the confusion.

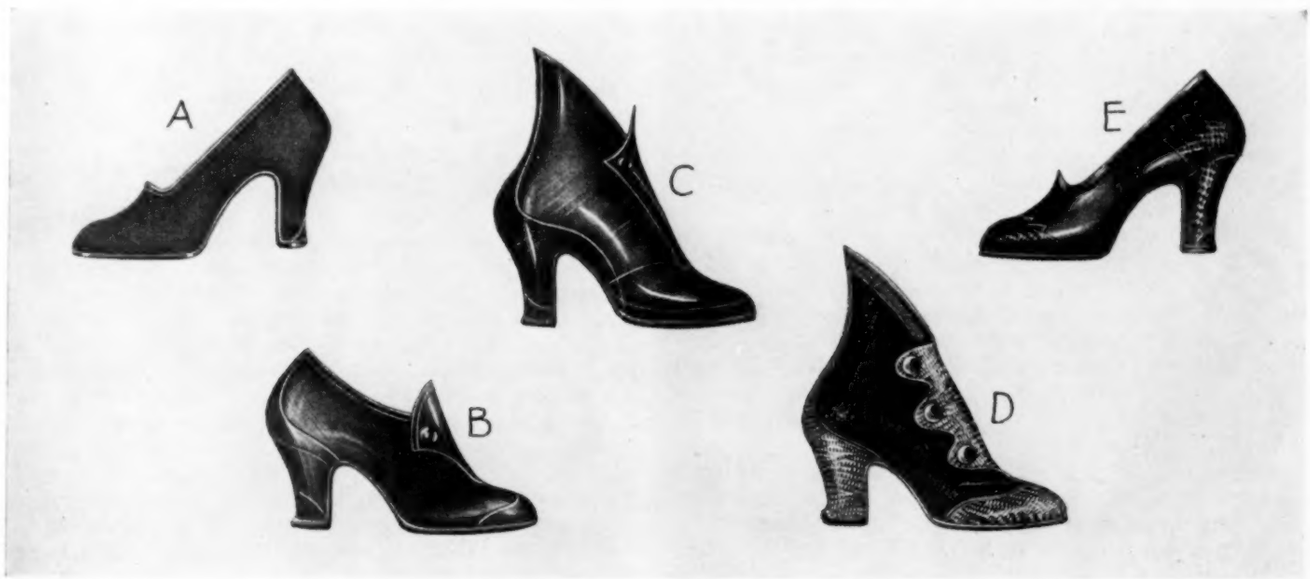
But be this as it may, there is still good business to be done by those who can jump these hurdles. Here are some of the ways in which forward-looking manufacturers and retailers are planning to do just that this year.

It shouldn't take three feet of snow to call out the gaiter reserves. And nice stockings getting splashed should be reason enough for women to want the protection of galoshes even in October.

The new, all-rubber gaiters, lined with light-weight fabrics, are light enough to wear on any rainy day and with all types of costumes. What few gaiter fabrics there are (with the exception of the staple models sold to men and to children and in country districts) are high-style fabrics, very thin and flexible, very different from the heavy fabrics of other years. The new gaiters have been styled for wet weather, not necessarily blizzard wear, and they can be promoted many weeks before the snow flies.

New rubbers are new enough and smart enough to produce added business too. The unlined rubber, or the rubber-lined rubber, has an important selling point. It can

*EDITOR'S NOTE: This article is reprinted with due acknowledgement from the *Boot and Shoe Recorder*, August 20, 1932.



Latest Styles in Rubber Footwear

(A) Waterproof suede-cloth rubber, styled to go with new raincoats. (B) Satin finish rubber, featuring the easily cleaned rubber lining. (C) The cuff mounting to the back is the preferred cut in gaiters. (D) Combination lizard and shark-skin effect. (E) Leather-patterned heel and toe trim in all-rubber overshoe.

be easily wiped off inside with a damp cloth to save suede shoes from being marred. In a suede season, too, in a season of soft, dull-finished textures in general, the soft, satin surface rubber and gaiter has a real reason for being. The high polish of the old "shiny overshoe" looks out of key with the shoes and the clothes of this year. The satin finish is fashion news to women.

New fashions in raincoats should be a help too. Raincoats have never been so well styled as they are this year. They have the attractive fabrics, the little capes, the widened shoulders, the big buttons, all the new details that will make them sell . . . and that will help sell rubber footwear too.

Shoe stores can tie in with this new interest in raincoats. In displays. In advertising. In selling.

White, for instance, is the feature color in raincoats, even for winter. And there is a white rubber on the market. It won't sell in great numbers, probably, but it will help to stress the whole idea of rainy day smartness.

Suede cloth is new in raincoats, a new cloth called "swavel" and this new suede cloth has been used in gaiters. There's a novelty fabric for raincoats that you can buy by the yard and use for displays to attract attention to a window of rubber footwear. It's an all-over . . . an all-wet . . . design of miniature "Repeal the Eighteenth Amendment" auto plates! Even if it doesn't snow a single flake in your city this year, it should be possible to put across the new gaiters and rubbers for rainy days.

Slide Fasteners and Slip-On Models

For their gaiters, the majority of manufacturers agree on the model with the slide fastener, finished at the top with a tab arrangement of some sort. It's an easy shoe to get into. A neat shoe on the foot. One of the most important producers, however, believes in the slip-on model, without fastenings or openings of any sort, and is planning to back up that conviction with an educational campaign. This campaign will demonstrate to the salesperson how to put the gaiter on a customer's foot and how to put over its fit and ease of adjustment when properly done.

A slide fastener that has been widely promoted in ready-to-wear this Spring and Summer will make its first appearance in gaiters this season. Covered with the material of the gaiter, by a patented process, this slide arrangement makes an inconspicuous and attractive seam. The necessity of a flap covering for the slide is eliminated and the weight of the shoe can be reduced by an ounce or so, a feature that is all to the good.

Another patented process that makes news in gaiters is the photographic rendering of leather patterns in rubber. The better stores will show these gaiters that look for all the world like leather boots, so cleverly has the graining of kid, alligator, lizard and other skins been simulated. A sample shoe is made up in actual leather, photographed, and its pattern transferred to the rubber by a process similar to that used in making imitation wood veneers for wall coverings. The reproduction is so exact that even the stitching of a toe cap in the model leather boot will be visible in the rubber article!

The general style trend in rubber patterns is for such neat, tailored effects, whether photographic or not. Fanciful designs, such as cobweb patterns and modernistic angles, are shown chiefly in the less expensive shoes and are a means of differentiating these grades from the higher priced gaiters. To make the foot as inconspicuous as possible is the object of the new gaiter fashions.

The color story is briefly told. Black and brown. The most salable brown in the rubber footwear market, however, strikes a happy medium between the best selling brown in ready-to-wear (i.e., a very dark brown) and the lighter shades which are at their best in sports fabrics like tweed. This medium brown has been well chosen. No red cast. No yellow cast. No russet cast. A grayed brown. Neutral. Versatile. Goes with everything. Matches the best stocking color—that grayed-brown color that women can wear with either black or brown outfits. This new gaiter color can be worn with black coats trimmed with brown furs, as an alternate to black. And it will blend with the occasional novelty shades such as burgundy seen in cloth coats, or with the high colors sometimes used for raincoats.

New Construction Features

Construction features are something to talk about this year. The experiences of stores last season with the all-rubber gaiter brought home to manufacturers several necessary improvements in practical design. That's the reason for the curved cuffs, gradually mounting towards the back instead of the older models with the straight top and the pointed corners. Not so likely to tear away in the hand with continual taking off and putting on and becoming to the ankle into the bargain. Toes and insteps have been reinforced, too, to keep the shoe from stretching with constant use.

It takes some engineering and experimenting to build a light rubber shoe that will stand up under strain.

The rubber gaiters of this year will stand the test. That's another selling argument of this year. Practical construction, style features, the new importance of rainy day fashions—these are three reasons why women should want rubber footwear this year, three reasons why stores should be able to sell them.

Permalux—A Non-Discoloring Antioxidant

PERMALUX, recently announced by the Rubber Chemicals Division of E. I. DuPont de Nemours and Company, is a new antioxidant which does not discolor rubber stocks except on prolonged exposure to sunlight when a slight grayish tone develops in white stocks. Permalux stocks maintain their brightness when exposed to the sun and they do not turn brown or yellow.

The manufacturers state that Permalux compounds do not discolor pyroxylin or nitro-cellulose lacquer films applied over them. This fact is of importance, as pyroxylin is known to be usually light sensitive to the usual type of antioxidant. Lacquered insulated wire and white refrigerator gaskets are other products in which a non-pyroxylin discoloring antioxidant is of value.

Permalux is recommended for use in press and steam cures, or in any type of cure where air is excluded. It is considered to be approximately 75 per cent to 80 per cent as powerful as phenyl-beta-naphthylamine. Usually 1 per cent on the rubber is sufficient for ordinary service. It has a mild activating effect on accelerators like Thionex and a more pronounced effect on Captax, which permits a reduction in the amount of accelerator used. The activating effect on the guanidines is so slight as to be negligible.

In dry heat cures, Permalux, is partly exhausted by the oxidation which goes on during the cure and is of less value in such cases than in enclosed cures. Possibly if Permalux were applied in suitable form to the surface of dry heat cured materials after cure and permitted to diffuse into the rubber, it would advantageously serve as an anti-oxidant and still render its important function of protecting without discoloring.

In the presence of bases Permalux has a tendency to break down, forming colored compounds. For this reason it is not recommended for use in latex. In molded stocks care should be exercised in the choice of mild lubricants.

RUBBER IN PHILIPPINE PLANTS

By JOAQUIN MARAÑON,
Bureau of Science, Manila,
and
PACITA CABATO,
Dept. of Botany, University of the Philippines

IN THE Philippines, the three rubber plants that are being cultivated on a commercial scale are the Para (*Hevea brasiliensis* Muell.-Arg.), the Ceara (*Manihot Glaziovii* Muell.-Arg.), and the castilloa (*Castilloa elastica* Cerv.). Due to the fertile soil and the warm climate these plants thrive well in various regions of the Archipelago, especially in the southern part outside of the typhoon belt. Also under these favorable tropical conditions there are various latex-producing plants growing abundantly everywhere.

However, very little is known as to their industrial possibilities; it is, therefore, interesting to know which of them contain rubber. With this aim in view investigation was begun. The fact that there are several species of *Ficus* widely distributed in the Islands at once suggested that it would be advisable to begin the study with this genus. Furthermore, many species of *Ficus* containing rubber are already known in other countries; obviously, it would be of interest to compare the extent of the occurrence of rubber in Philippine *Ficus* plants with that in the foreign ones.

Previous Researches Made

In searching for previous work on rubber, as reported in the Philippines, but few references directly relating to the chemical aspect of the problem were found. However, there are some interesting papers dealing with phases presented by the cultivation of rubber plants. For instance, Worcester (Far Eastern Rev. 9 No. 2 (1912) 31) has discussed at length the cultivation, propagation, and tapping of Ceara and Para rubber plants in the southern Philippine Islands. In this article, the land laws and the estimates of expenses and profit in connection with the cultivation of rubber plants are also given. Aldaba (Philip Agr. 7 (1919) 274) has made an interesting botanical study of the cultivation and tapping of castilloa rubber in the Philippines, where environmental and soil conditions, methods of culture, clearing, pests, diseases affecting the plant, tapping, and improvement by selection are among the many points discussed.

So far as known, the Philippine latex plants that have been chemically examined for rubber or gutta-percha are the "tagulaoay" (*Parameria philippinensis*, Radlk.), "dita" [*Alstonia scholaris* (Linn.) R. Br.], "palakpalak" [*Palaquium philippense* (Perr.) C. B. Rob.], and *Micrechites schrieckii* (Van Huerck and Muell.-Arg.) Rolfe. In the first plant it has been found that the bark contains 4 to 5 per cent of rubberlike gum, but the commercial utilization of this rubber vine is very doubtful. In the case of the other plants, analyses made by the American Chicle Company show that they contain gutta percha, although it is doubted whether the gum can be of much value in the chewing-gum industry.

In this report, twenty-four species of *Ficus* were examined. Thirteen of these are endemic and the rest are either introduced species or Pantropic in cultivation. The species that were found to contain rubber are *Ficus minahassae* (Teysm. and De Vr.) Miq., *F. elastica* Roxb., and *F. calophylloides* Elm. The rubber extracted from the above-mentioned species was found to agree closely in its percentage composition with the hydrocarbon of the formula $C_{10}H_{16}$ which is the greatly preponderating constituent of Para rubber.

The material consisted of stems and leaves of *Ficus* which were obtained from the neighborhood of Manila and from the Makiling Botanic Garden, Agricultural College, Laguna. The leaves and the bark of the stems were air-dried and ground to pass through a 20-mesh sieve. Moisture determinations of the different powdered samples were made and the results of the analyses expressed in terms of the moisture-free basis.

For the determination of rubber in the samples, the method recommended by Hall and Goodspeed (Univ. Calif. Pub. Bot. 7 (1919) 216) was adopted. The ace-tone extraction, however, was prolonged for more than three hours since it was found that the coloring matter could not be removed in this period of extraction as prescribed in the original method.

The major portion of the gummy constituent of the latex is removed by the acetone extract which represents approximately all the resins, fats, and coloring substances. In the benzene extract which contains rubber, only three species of *Ficus* were found to give an appreciable residue. These are *F. calophylloides* Elm., *F. elastica* Roxb., and *F. minahassae* (Teysm. and De Vr.) Miq. The per cent of rubber in the bark of the stem of these plants is 0.73, 3.56, and 0.52, respectively. The amount of rubber thus obtained, however, is subject to fluctuation as there are several factors, such as the age of the plant, soil and climatic conditions, which must necessarily affect the yield of rubber in a given plant. While the other samples analyzed show that there is a small amount of benzene extract, this may be due to the resinous matter which was not completely removed by acetone. Moreover, the amount of the extract is such that the presence of rubber in them is doubtful.

From the elementary composition of the rubber obtained from the above-mentioned plants, as shown in Table I, the percentage composition of the hydrocarbon agrees very closely with that reported for Para and India rubber.

Table I—Ultimate Analysis of Rubber from Philippine Ficus

Species	Carbon	Hydrogen	Oxygen 100—(C + H)	Carbon : Hydrogen
	Per cent.	*Per cent.*	*Per cent.*	
Ficus minahassae	87.16	11.85	0.99	10 : 16.18
Ficus elastica	86.40	12.00	1.60	10 : 16.52
Ficus calophylloides	85.70	11.92	2.38	10 : 16.41

Summary

Chemical analyses of twenty-four species of Philippine

EDITOR'S NOTE: Reprinted with acknowledgement from the *Philippine Journal of Science*, August, 1932, p. 525.

Ficus for the rubber content was performed. These species were collected from the vicinity of Manila and from the Makiling Botanic Garden, Agricultural College, Laguna.

The species which were found to contain rubber are *F. calophylloides* Elm., *F. elastica* Roxb., and *F. minahassae* (Teysm. and De Vr.) Miq. The percentages of rubber found in the stems of these plants are 0.73, 3.55, and 0.52 respectively.

From the elementary analysis, the rubber obtained from the above-mentioned species contains the hydrocarbon of the formula C_{10} H_{16} which is the prevailing constituent of Para rubber.

Cheap vs. Fair Priced Tires

By W. O'Neil

President, General Tire and Rubber Company

THE time has come to call a halt to dumping on the buying public shoddy merchandise at so-called "bargain prices" in the belief that consumers will buy anything if it is only cheap enough. For the past several years, because of economic stringencies, it is true that price has been a more important factor in the sale of many commodities than it used to be. Persons with reduced incomes had to adjust their expenditures accordingly. It was wise to buy for less, if possible, if real value was not sacrificed, of course.

Some manufacturers in many lines eventually became convinced that the public would buy only if an article was ridiculously cheap but that it would buy anything offered, if the price was only low enough. Consequently, they started giving the public shoddy goods at these ridiculously low prices.

Now, the tide has turned. It has been dawning upon the average consumer that he has been buying poorly-made, unsafe, and unreliable merchandise in the belief that he has been getting reliable goods at "bargain prices." Today, he is looking farther than the price mark when he buys something to use.

Take automobile tires, for instance. Just how safe are the numerous tires that have been dumped on the market lately at prices ranging between three and four dollars? Engineers say that it is unsafe to drive on them at more than 25 or 30 miles an hour, yet they are expected to go 60 miles or better.

Some of these cheap tires may give unexpectedly long mileage but it is also true that some trapeze performers live to a ripe old age. The insurance companies, however, charges a much higher premium to insure trapeze performers. If every unsafe tire that is running on the highways today were to be discarded, every tire company in the country would be working overtime for months to fill the demand for tires. Millions of tires are needed right now by the car-owners of the country, most of whom do not realize the meagre margin of safety on which they are traveling every day at high speeds.

Tire mileage, after all, should be only a secondary consideration in motor travel. Human mileage—the miles that you and I and every other driver travels on tires—is much more important. Unsafe tires cut down human mileage for the last few miles eked out of a poorly-built, unreliable tire constitute a reckless gamble with death or serious injury.

When a company brings out, under an old-established name, a cheapened product, the buyer's pride of ownership departs with the quality that has been sacrificed in the tire. It is a source of gratification to us that our company not only has not cheapened its product in any particular, but has sold more units thus far this year than during any previous period in its history.

During the first half of 1932, our company made and sold 17.6 per cent more tires than during the same period in 1931, which had, up to that time, held the record for the largest number of tires made and sold in any half year. And, in spite of the abnormally low price levels to which all tires have dropped, our sales volume in dollars and cents for the first half of 1932 was only a fraction of one per cent less than during the same period in 1931.

Comparison with the rest of the industry, based on semi-annual reports of other companies, shows that the best record made by any competitive company is a loss of 21 per cent in dollar volume, while some companies suffered losses running up to 35 and 40 per cent in dollar volume of sales, while they sustained unit losses as well.

When quality is taken out of most merchandise, such as furniture or clothing, a sense of dissatisfaction is usually the only penalty that the buyer pays.

Of late, there is a growing appreciation of the fact that a fair price is an essential of dependable merchandise, especially in automobile tires that slashed prices and shoddy merchandise go hand in hand; and that quality is worth paying a few cents more for.

There are safer ways of saving a few pennies than in taking them out of tires on whose integrity one's life may depend in an emergency.

New Truck Rim

FIRESTONE Tire and Rubber Company has announced a new 5 and 6-inch Type R rim. It is new in principle in that it consists of a continuous ring and a continuous base, while all other two-piece truck and bus rims require a "split" in either the ring or the base.

With changed operating conditions such as higher speed, heavier load, and use of balloon tires the ends of a "split" member, especially if distorted by abuse and overload, are a potential cause of digging and cutting the tire bead, with premature bead failure. These difficulties mean shortened tire life, road delays, danger and expense.

The principle of the new rim is interesting. A part of the ring is placed into a gutter of the rim like a tire bead is placed into the well of a drop-center rim. The ring then being placed eccentric, is easily snapped over into the gutter, and then settles firmly into place when the tire is inflated.

Electric-Heated Steam Boilers

INDUSTRIES requiring process steam in small or moderate volumes at pressures of from 200 lb. downward will be interested in a new line of electrically heated full-automatic steam boilers being marketed by the Commonwealth Electric & Manufacturing Company, Boston, Mass. Six standard models are available, ranging from 7.5 kw. to 90 kw. in rating, the operating voltages being either 110-125 or 220-250.

The field of application includes installations where main boiler plants must be run at low load to deliver process steam outside the normal heating season, where small amounts of steam are needed at extra high pressure, where process steam is required infrequently at points distant from the main boiler, where explosive atmospheres debar flame heating, where local fuel-fired boilers are objectionable, where hydro-electric energy is economically available and where all-night process steam is wanted. In general, the equipment is competitive with fuels where the energy rate is 3 cents per kilowatt-hour or less.

EDITORIAL COMMENT

Conclusive Proof of Business Revival

DEFINITE evidence of an upturn in industrial activity is seen in the current news. To the rubber industry the rise in the price of crude rubber is a particularly pertinent sign. From a low of 2½ cents to a present price of 4½ cents per pound within 6 weeks time should be significant;—at least it will add to inventory values when quarterly statements are being prepared.

"Confidence in the fundamental soundness of the dollar is the immediate cause of a universal betterment of business sentiment and of a notable series of price recoveries," declares Col. Leonard P. Ayres of the Cleveland Trust Company.

"There has been a sweeping change in the prevailing attitude of mind of the people of this country in recent weeks," observes Col. Ayres. "It amounts to something like a reversal in business sentiment. Gloom and doubt and apprehension have been displaced by hope and feelings akin to confidence. These alterations in mental attitude have accompanied changes in the prices of goods and securities. The wholesale quotations of commodities, and especially those of farm and food products, have been advancing. Bond prices have steadily strengthened, and so consistently that on every trading day in July the number of bond quotations that advanced on the New York Exchange exceeded those that declined. In the same month the rail stock averages went up over 65 per cent, and those of the other groups nearly as much."

Stocks of crude rubber have declined and production and shipments have fallen off. A revival of industrial activity, especially in the smaller rubber manufacturing plants, has been reported by press despatches from many localities. Unemployment within the industry has decreased considerably over the last two months. An appreciable gain has been made in the value of most of the leading rubber companies stock issues.

Other signs of recovery are plainly on the horizon. Recently B. C. Forbes, the well-known economist, published an impressive array of encouraging evidence of an upturn. We take the liberty of quoting it as conclusive proof that some change for the better in business and industry has arrived:

Exports of steel products are increasing.

U. S. Steel Corporation will spend $5,000,000 rehabilitating plants.

Remington Rand will buy immediately $4,500,000 materials and supplies.

Wool purchases reach the largest volume in years.

Electric output gains.

Copper is in demand abroad—and firmer.

Bell System reports a substantial upturn.

Business failures index declines.

Lumber mills report more business than in several months.

Meat packers' sales show first increase since October.

Orders for wool fabrics and men's clothing are heavy—with scarcity predicted.

News from the building industry is more encouraging.

Textile production is increasing.

Dry goods sales are expanding.

Buyers in wholesale markets are notably numerous.

New York department stores this month show smaller reduction in sales. Stocks are below a year ago.

Freight loadings rise 6,211 cars.

Freight car surplus has been cut.

Pennsylvania, New York Central, Missouri Pacific and Norfolk & Western report freight increases.

Boston and Albany shops resume operations.

2,251 new freight cars have been put in service.

Woolen, worsted goods, rayon, silk and hosiery mills re-employ thousands.

Several thousand anthracite miners resume work.

Y. & O. Coal Company, Ohio, resumes, employing 350.

Cotton records a new high quotation for the year.

Hog prices return to $5—cattle also are stronger.

Scrap steel prices rise to the highest since June.

American Smelting advances lead for the fourth time.

Labor Bureau reports fourth consecutive weekly rise in prices.

Commerce Department reports 112 commodities are 4.8 per cent above low of May 2.

Wool, beef, lamb, pork, hides, potatoes, coffee, cottonseed oil, lead, rosin, cotton goods all advance.

Raw silk has risen 60 per cent since June.

Rayon prices are up.

Woolen cloth prices show an upward tendency for the first time in five years.

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Representatives in all the rubber centers of the United States, Canada, England, France, Germany and the Middle East.

The Rubber Industry's CURRENT NEWS

Financial—Personals—New Rubber Products—
Building Operations—Manufacturing—Exports

GENERAL TIRE OUTPUT AND SALES INCREASE

Unit sales of the General Tire and Rubber Company, for the first six months of 1932 were greater than for any previous similar period in the history of the company, according to a recent announcement by W. O'Neil, president of the company.

"Up to July 1, this year, the General Tire Company made and sold 17.6 per cent more tires than during the same period in 1931, which had held, up to that time, the record for largest number of tires made and sold in a half-year period," Mr. O'Neil said. "Moreover, in spite of the abnormally low price levels to which all tires have dropped, our sales volume in dollars and cents for the first half of 1932 was only a small fraction of 1 per cent less than during the same period in 1931.

"Comparison with the rest of the industry, based on semi-annual reports of other companies, shows that the best record made by any competitive company is a loss of 21 per cent in dollar volume, while some companies suffered losses running up to 35 and 40 per cent in dollar volume of sales, while they sustained unit losses as well.

"Today, General Tire factories are working full time and sales are steadily increasing.

"In such times as we are now passing through, the General Tire Company is particularly fortunate in having no bonded indebtedness or debentures.

"The gains which our company has made this year have been made through the business of independent tire dealers, holding General Tire franchises, and in this country, not abroad.

"Sales of the new low-pressure tire brought out by our company this year, helped our dollar and cents volume during the first half of 1932, but, even without counting the Jumbo tire, the company made a unit gain over the same period in 1931."

Rubber Exchange Seats Sold

The membership of Paul H. Hemelryk, of Liverpool, in the Rubber Exchange of New York, Inc., was purchased August 29, by Arthur L. Dunn, broker, for another, for $1,050, an advance of $50 over the last previous transaction, and the highest price recorded for some time.

Other recent sales of seats on the Rubber Exchange include the membership of Eric L. Lazarus, which was purchased by I. J. Louis, of E. J. Schwaback and Company, for another, at a price of $950. The seat of the late Adolph E. Norden has been sold to Nelson S. Robinson, crude rubber broker, for $600.

The memberships of Fred T. P. Waterhouse and of the late Frank G. Alden have been sold to David S. Kubie, of the Raw Products Corporation, for $600 and $650, respectively.

C. T. Revere, of Munds, Winslow & Potter, 25 Broad Street, New York, recently purchased the membership of Otto Zieseniss of Paris, France, for $900.

Ceylon Using Scrap to Fire Locomotives

A number of experiments have been carried out by the Ceylon Government Railways during the past few months with a view to using scrap rubber in place of coal for firing the boilers of locomotives. As a result of the success achieved, tenders have been called for from local plantations, and it is estimated that nearly 200 tons of scrap rubber can be consumed in this way annually at a saving in fuel consumption of about $5,500.

Miller Gets Tax Rebate

Over-assessments in income tax payments amounting to more than $174,000 have been refunded in favor of the Miller Rubber Company, Akron, by the Bureau of Internal Revenue, Treasury Department.

The Bureau revealed that an overcharge of $20,373.13 was found for the company's 1917 income tax payments, and $154,237.80 for its 1918 payments.

The amounts will be combined and set up as a rebate to the Akron concern. The great part of the over-assessment for 1918 results from the allowance of additional deductions for losses sustained upon the abandonment of certain capital assets.

Seiberling Opens N. Y. Depot

The Seiberling Rubber Company announces the opening of a new warehouse, located in the Starrett Lehigh Building, 601 West 26th Street, New York, N. Y., within ten feet of the new west side elevated motor highway.

The company also announces the appointment as Manhattan distributors of H. P. Baran and M. Jacobson, doing business under the trade name of Air Cooled Tire Company and located at the same address.

NEW INDEPENDENT TIRE DEALER GROUP FORMED

A buying and merchandising organization of independent tire dealers, which will purchase and distribute most of the major items stocked by such dealers is contemplated in the establishment of the American Tire Alliance, Inc., with offices in the First-Central Bank Building, Akron, O.

The new organization is reported to be composed of an aggressive group of well-financed independent tire dealers and service station owners and is headed by Harry L. Post, who has held the position of assistant sales manager with the Seiberling Rubber Company for several years and has been identified with the rubber industry for the last 21 years.

"There has been a lot of talk about what ought to be done for the independent dealer, but not a whole lot has been done. The independent dealers who form the nucleus of the American Tire Alliance have determined to do something about it," said Mr. Post, in a statement relative to the formation of the new organization.

"The plan is unusually interesting to independent dealers in that it does not require the dealer to drop any line of merchandise he may now be carrying. He loses nothing and gains tremendously through participation with many other independents in cooperative merchandising and in organization to resist the competition of the mail-order houses."

Exchange Operations Increase

Transactions in crude rubber futures were swelled to a volume of 61,930 long tons on the Rubber Exchange of New York, Inc., during August, the largest total for any preceding month since March, 1929.

Last month's activity compares with sales of 13,120 long tons during July, 1932, with 17,897½ long tons transacted during August, 1931, and 65,607½ tons in March, 1929.

The volume of daily sales on the Exchange became progressively greater toward the close of last month. The most active day was Monday, August 29, when transactions rose to a total of 6,580 long tons.

Lycoming Plant Closes

The Lycoming Rubber Company of Williamsport, Pa., a subsidiary of the U. S. Rubber Company, and employing approximately 2,000 persons, closed September 1 for an indefinite period. Conditions in the footwear industry were said to be responsible for the suspension.

RUBBER FIRMS ASKED TO KEEP PERSONNEL

A committee of six representative men of Summit county, Ohio, has been asked by an organization speaking for workingmen of Akron and the other cities of the county, to request that rubber plants there maintain their personnel as at present, instead of laying off additional employees.

The committee will be composed of J. B. Looker, chairman of the board of county commissioners; Frank E. Whittemore, state representative; Mayor George D. Porter of Cuyahoga Falls; Mayor S. A. Decker of Barberton; W. J. Bankes and J. Earl Cox.

Spokesmen for the American Family, a group said to be interested in the unemployed problem, met with Looker, Whittemore and some of the other citizens, in the county commissioner's office recently to formulate plans.

Goodrich Advertising Conference

District advertising managers of the B. F. Goodrich Company arrived in Akron, Saturday, August 27 and were in conference in the Mayflower Hotel, Monday, Tuesday and Wednesday of the following week, discussing policies for the fall and early next year.

Sunday, August 28, they were guests of the Goodrich company at the National Air Races at Cleveland airport, where Goodrich Day was marked. P. C. Handerson, Goodrich advertising director, was in charge of the conference, assisted by Guy Gundaker, Jr., sales promotion manager.

The field advertising staff, which was doubled last June, includes the following: L. B. Cooley, Akron; V. C. Carr, Boston; R. J. Geis, New York; C. R. Miller, Philadelphia; J. A. Clinard, Washington; H. C. Bear, Atlanta; M. F. Davis, Detroit; L. W. Frizzell, Cincinnati; N. A. Glantz, Chicago; P. N. Donohoo, Minneapolis; J. N. Forsythe, St. Louis; L. T. Greiner, Kansas City; N. H. Keeling, Dallas; B. C. Smith, Denver; E. A. Johnson, Seattle; E. L. Osselin, San Francisco; and R. F. Wood, Los Angeles.

Netherlands Rubber Co.

The Netherlands Rubber Company, Cincinnati, Ohio, which has been selling a line of rubber goods to the hardware and department store trade, will enter the hardware specialty field.

Lawrence P. McGoff, formerly district representative of the Boston Woven Hose and Rubber Company, Cambridge, Mass., is president and general manager of the Netherland company.

India Holds Picnic

More than 1,500 persons attended the annual picnic of India Tire and Rubber Company employees and their families, which was held Saturday at Brady Lake, Akron.

The picnic program opneed with a golf tournament at Mogadore Knolls at 7 a. m. Other sports events also were on the program.

Get Drawbacks on Cotton

Drawbacks have been allowed to the Kelly-Springfield Tire Company and the General Tire and Rubber Company, by the Bureau of Customs of the Treasury Department, on imports of long staple cotton used in the fabrics of tires which were later exported. The basis of liquidation, according to the ruling of the department, is established by the weight of cotton fabric in the tires plus 4 per cent of that weight for shrinkage.

Lee at Full Capacity

The Lee Rubber and Tire Company, Conshohoken, Pa., recently announced that their factory had not only gone back to normal day and night production schedules but had been forced to return to the seven-day week.

"New orders increased continuously during June and July," A. A. Garthwaite, general manager of the company said. "After two months of being behind in orders and another month of abnormal business ahead of us, we feel justified in believing our business improvement may be permanent."

July Rim Output Drops

Automobile rim production in July decreased sharply from June, according to production statistics furnished by the Tire and Rim Association. July output was 338,725 units, compared with 499,441 in June and 812,642 for July last year.

Disposition of the output as to types was about the same as in June. The 18 by 3.00 D drop center balloon type showed a loss, however, and production of the type amounted to 22.7 per cent of total production as compared with 28.3 per cent the month before. The 18 by 3.25 E type also lost in favor, output being 29.2 per cent as comparde with 44.1 per cent the month before.

McClaren on 24-Hour Schedule

H. E. Williams, vice-president and general manager of the McClaren Rubber Company, states that the plant is now employing three eight-hour shifts for the first time for many months.

Rubber Stock Quotations

	Sept. 6	Last Price Aug. 5	—1932— High	Low
Aetna	—	1¾	3	1½
American Hard Rubber	11	—	—	—
Faultless	—	20	25	12
Firestone	16½	12	18½	10¾
do. 6% pfd.	—	55	59½	45½
Fisk	⅝	¼	⅞	⅛
do. 1st. pfd.	1⅞	—	2⅝	¼
General	—	30	45	25
do. pfd.	—	60	—	—
Goodrich	10⅝	4¾	12⅝	2¼
do. pfd.	12¼	13¼	33	7
Goodyear	26⅞	12⅝	29¾	5½
do. 1st pfd.	64½	42	69½	19¾
India	—	2⅝	7	½
Kelly-Springfield	2⅝	1¼	2⅞	½
do. 6% pfd.	—	—	30	16
Lee	6⅝	—	7⅞	2
Mohawk	4	1½	4	1
do. pfd.	—	20	—	—
Norwalk	2¼	—	2½	¾
Pirelli	—	—	31¾	21
Raybestos-Manhattan	11¾	7	12¾	4⅞
Seiberling	4½	2¼	4½	1
do. pfd.	—	10	22	7
Thermoid	2½	3	3	⅞
U. S. Rubber	9¼	4½	10¼	1¼
do. pfd.	18	8⅞	20¾	3¾

RUBBER INDUSTRY PAYS $96,057 FEDERAL TAX

Under the new excise taxes the domestic rubber industry, during July, paid into the coffers of Uncle Sam the sum of $96,057, in the manufacture of tires and tubes.

The new taxes, according to Treasury reports, contributed more than three per cent of the July Federal income. Total revenue received was $61,686,467, with income taxes amounting to $17,457,131; cigarets, $28,605,437, and chewing and smoking tobaccos, $4,373,873.

The total fell short of the July, 1931, figure of $74,169,258.

The two-cent check tax yielded $1,094,287; one-cent gas tax, $539,461; taxes on malt, etc., $221,359; soft drinks, $89,569; radios, $32,848; electric energy, $32,196; toilet preparations, $68,860; candy, $52,324, and safety deposit boxes, $45,848.

South African Market Drops

The outstanding features of the trade during the last three years considered was the severe drop in the value of motor car tires imported—over 50 per cent less in 1931 as compared to 1929, according to a report of U. S. Trade Commissioner E. B. Lawson, at Johannesburg. This recession is not due entirely to the reduced quantity of tires coming into South African ports, as the weight reduction amounted only to about 26 per cent, but it is evident, it is believed, of a combination of factors such as substantial price reduction and cheaper lines. The decline in imports of tires since 1929 has been constant and material from year to year, with the United States trade suffering about 64 per cent quantity loss, as compared with the 26 per cent general reduction in imports. The volume of imports coming from American plants was in 1931, at the lowest level since 1927.

This spectacular reduction is no indication of a loss of popularity of American tires as they still dominate the market, but it does point to a defintie shifting to the British and Canadian plants of American manufacturers, where the advantages of exchange are evident, together with some small benefit from the "Buy British" or "Buy Empire" movement. It will be noted that whereas the United States volume of trade dropped by some 64 per cent and the general total by 26 per cent, the Canadian trade loss was less than 13 per cent, and the United Kingdom decrease only 6 3/10 per cent during the three years.

Rubber Flooring in Singapore

It is reported, through the Department of Commerce, that a number of firms in Singapore manufacture rubberized floor coverings. Many of these coverings are now provided in attractive designs, and owing to the low costs of crude rubber and labor and minimum freight and selling costs are sold at a very low price, varying actually with the quality of the product and the amount of labor put into its design. Although representative American products are generally more attractive in design, they would encounter considerable competition from this local product.

Tire Data on "Doughnuts"

Advice to dealers who are mounting the new "doughnut" tire equipment on cars is contained in a data book just published by B. F. Goodrich Company. Goodrich claims the application of the new "doughnuts" has no appreciable effect on the gear ratio of a car. The regular 4.75 by 19 size, for example, revolves 714 times in going a mile, whereas the 6.50 by 16 "doughnut" revolves 741 times, the 7.00 by 16 size 718 times, and the 7.70 by 15 size 719 times.

Increase in power loss due to the "doughnuts" is negligible, it is said, therefore they do not constitute a factor in fuel consumption. Normal speeds are not lessened although occasionally there may be a slight decrease in the extreme top speed of certain cars.

As for clearance, minor adjustments are said to be necessary on some cars for tire rack and bumper clearance. It will be necessary to check carefully for projecting parts such as tie rod ends, cotter pins, grease nipples, shock absorbed joints, etc. Fender wells must also be altered if the new doughnuts are mounted on the side.

Tendency of a car to shimmy, wander, or wheel fight, which may be accentuated by the mounting of "doughnuts" can be overcome, states Goodrich, by: (1) Slight increase in air pressure of front tires. (2) Properly balancing front wheel and tire assembly. (3) True alignment of front wheels.

Recommended equipment by car makes is as follows: Buick—7.50 by 15 size tire; Chevrolet—7.50 by 15, 7.00 by 16, and 6.50 by 16; Chrysler—7.50 by 15 and 7.00 by 16; DeSoto—7.50 by 15 and 7.00 by 16; Dodge—7.50 by 15 and 7.00 by 16; Essex—7.50 by 15, and 7.00 by 16; Ford—7.50 by 15, 7.00 by 16, and 6.50 by 16; Graham—7.50 by 15; Nash—7.50 by 15, and 7.00 by 16; Olds—7.50 by 15, and 7.00 by 16; Plymouth—7.50 by 15, 7.00 by 16, and 6.50 by 16; Pontiac—7.50 by 15, and 7.00 by 16; Reo—7.50 by 15; Rockne—7.50 by 16, 7.00 by 16, and 6.50 by 16.

MALAYA AGREES TO WAIVE ESTATE RENTS

Planters in Malaya have obtained the rent relief they required. Following representations made by the R. G. A., the F. M. S. and Johore Governments have announced their decision to waive all rents in excess of $2 per acre for 1932 on agricultural lands in Malaya. It will be recalled that some months ago the Government of the Straits Settlements announced that it would reduce quit rents to $2 per acre for the current year.

The Rubber Growers' Association points out that the incidence of rents on many properties in Malaya is relatively high and forms a not inconsiderable part of the outgoings on an ordinary estate. In some cases the rent on estates on a care and maintenance basis is as much as 40 per cent of the total expenditure. Furthermore these rents were very much higher than in the Dutch East Indies and some other rubber-growing countries, thus placing the Malay planter at a distinct disadvantage.

Sues on Patent Right

The Ohio Rubber and Textile Company, Willoughby, O., was recently sued in Common Pleas Court, Cleveland, by a former salesman of the concern, who filed a petition that the company was manufacturing and selling a patented automobile running board invented by him without compensating him for use of his patent.

The former salesman, Budd Bronson, of Cleveland, O., sought an injunction against disposal of the patent and the company's factory at Willoughby, and demanded an accounting of sales, which he estimated had totaled in money $8,300,000 from 1927 to 1932.

The running board is a composite of rubber and steel, the petition said, and is now standard equipment on several automobiles manufactured by General Motors. The petition said that it was invented apart from Bronson's duties as a merchandising man, and that he had assigned the patent to the company on representations that he would be compensated in the future.

James Cooper Lawrence

News of the passing of Dr. James Cooper Lawrence, dean of the board of regents of the University of Minnesota, was shocking to his many Akron friends. For ten years he had lived in Akron, evidencing such ability in the rubber business that he was promoted by the B. F. Goodrich Company to its assistant treasurership and sales manager in charge of branch operations. Even after his retiremnet to take up educational work at the Minnesota school he retained his active interest in the rubber industry, his book "The World's Struggle for Rubber," appearing in January of this year, establishing him as an authority in this field.

Because of his energy and his progressive attitude toward industrial problems he was appointed by President Hoover as a member of his commission on the study of economic conditions. In his own business career Mr. Lawrence had done what he could to apply as well as teach progressive ideals. He is credited with having given effect to one of the first five-day week plans on record in America.

Earl W. BeSaw

As we go to press, news comes of the death on September 5, of Earl W. BeSaw, president of the Firestone Tire and Rubber Company of Canada, Ltd., Hamilton, Ont. Mr. BeSaw was a native of Akron and entered the employ of the Firestone organization there 22 years ago as a salesman. He was successively promoted to Des Moines as branch manager, western district manager, manager of western sales and then general sales manager of the Firestone company.

He became vice-president of the Oldfield Company, predecessor of the Firestone Canadian company, and later held that post under the Firestone regime until 1930, when he was promoted to the presidency. He was a former president of the Rubber Association of Canada.

Personals

LEONARD KIMBALL FIRESTONE, son of Harvey Firestone, Akron rubber magnate, will be married in New York City on September 14 to Miss Polly Curtis. Wedding plans were announced by Mr. and Mrs. Elroy Curtis of New York and Brookfield, Conn., parents of the bride-elect. The ceremony will be performed in the Church of the Ascension by Dr. Boyd Edwards, assisted by Rev. John A. MacSporran. Only immediate members of the families will attend. After the ceremony the couple plans to go abroad.

HARRY T. DUNN, president of the Fisk Rubber Company for almost thirty years, until its receivership 18 months ago, has definitely retired from the business. The office of president was abolished when the receivers went in, but Mr. Dunn had continued his association with the business to assist in straightening out its affairs. His retirement marks the termination of the original organization, and paves the way for a reorganization, which has been in prospect for some little time.

Mr. Dunn was long active among the leaders of the rubber business, and therefore widely known. He was at one time a vice-president of the Willys-Overland Company, in addition to his other interests, but except for that confined his attention solely to the industry in which he was best known. At various times he was vice-president of the Rubber Club of America, president of the Motor and Accessory Manufacturers Association, president of the Rubber Manufacturers Association (1921-1922) and a director of the once existent Rubber Institute.

C. L. HARPER, service manager mechanical goods department, the B. F. Goodrich Company, has joined the group of Goodrich employees hunting big fish on their vacation, and with his family is spending his holiday at Prescott, on the St. Lawrence river.

FRANK E. TITUS, sales manager of Pacific division of the B. F. Goodrich Rubber Company, Los Angeles, Calif., visited Akron recently for conferences with company officials. According to Mr. Titus, the Olympic games failed to increase southern California business appreciably. The largest crowds attending the games only equalled attendance of the football games played by University of Southern California.

Mr. Titus recently completed 25 years' service with Goodrich and is now being honored with a sales contest arranged for by the coast organization.

T. B. TOMPKINSON, comptroller of the B. F. Goodrich Company, returned to his office, August 24 after a vacation spent at Muskoka Lake, Ontario, Canada. "No fishing, just rest and golf," he replied when asked whether he had snagged any big ones.

Rubber Goods and Specialties

New Goodrich "Doughnuts"

Following wide public acceptance of its original "doughnut" tire, the 7.50-15 size, carrying less than 15 pounds of air pressure, B. F. Goodrich is now marketing two additional sizes of Flying Silvertowns in the low pressure line. These new sizes, the 6.50-16 and 7.00-16 make Goodrich low pressure tires available for nine makes of automobiles.

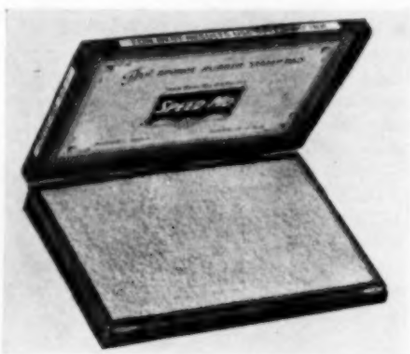
The 7.50-15, original Goodrich low pressure tire can be used on Chevrolet, De Soto, Essex, Ford, Graham, Oldsmobile, Plymouth, Pontiac and Rockne automobiles, embracing about 30 models.

Chevrolet, De Soto, Essex, Ford, Oldsmobile, Plymouth, Pontiac and Rockne cars,can now be equipped with the new 7.00-16 size, and Chevrolet, Ford, Plymouth, and Rockne models with the new 6.50-16. New sizes require slightly higher pressure than the 7.50-15.

All Goodrich low pressure tires will be mounted on new type chromium disc wheels, made in necessary types and sizes to replace any kind of wheels on automobiles included in the new enlarged list.

Sponge Rubber Pad

The Rivet-O Manufacturing Company, 32 Jason Street, Orange, N. J., is the manufacturer of a new line of stamp pads, which they are marketing under the trade name "Speed-Mo." The filler of the pad is made of sponge



rubber. The manufacturers claim that because of the sponge rubber feature, the pad gives an especially clear impression, will not sag or sweat, is silent and cleans the type of the rubber stamp when inking. It is said to be particularly well adapted for use where heavy duty is required or where large rubber stamps are used.

Snowshoe Tire

A patent covering on a new type of tractor cushion tire known as the "zero pressure" has been granted to a tire engineer of the B. F. Goodrich Company. The new tire is designed to provide a snowshoe effect in loose or soft soil, having a tread which deflects readily under moderate loads, providing unusual tractive qualities. The tire also eliminates rebound, rides easily, will not damage pavements and requires no inflation, the manufacturer maintains.

Jingle Ball

A novel playball idea, having a great appeal to children, with musical bells inside, which give out a jingling tune when the ball is in motion, is being offered to the toy trade by the Essex Rubber Company, Trenton, N. J. It is a full size 9 inch ball and finished in green and red mottled colors. It comes fully inflated but can be easily deflated if desired, being equipped with the all-rubber disappearing valve used on all Essex balls.

Rubber Baby Dolls

The Ideal Novelty & Toy Company announce that they have acquired control of the Admiar Rubber Company of Brooklyn, N. Y., and will act as sole selling agents for this concern. This step was taken in order to offer their customers a popular priced all rubber baby doll. Morris Michtom, president of the Ideal Novelty and Toy Company, says that the rubber baby doll that they are now presenting to the trade through this acquisition will be made in two sizes. The new doll can be seen in the Ideal showroom in the Fifth Avenue Building, New York, N. Y., together with the full range of Ideal dolls. The latter include several novel presentations of Honeysuckle, the baby doll with body, arms and legs of "Tru-Flesh" rubber.

Campaign Balloons

In preparation for the presidential campaign the Oak Rubber Company, Ravenna, O., are offering regular stock size toy balloons, printed with the picture of the leading candidates and the following slogans:

HAVE FAITH IN HOOVER or ROOSEVELT and REPEAL

The company is able to furnish quantity lots, which will be offered at regular stock cut prices.

U. S. Gets State Contract

The United States Tire and Rubber Company, on a bid of $6,228.90, has been awarded contract for the next six months' supply of tires for the State Road Department of Florida, according to a recent announcement.

"Water Blimps"

A new type of water sport craft has been developed by the New York Rubber Corporation, Beacon, N. Y., by equipping their standard "airubber" rafts with outboard motors, as shown in the accompanying illustration.

The novel craft made its first appearance at a recent regatta at Poughkeepsie, N. Y. The motor was attached by means of a bracket laced to the pontoons. The bracket was constructed of two-ply wood and aluminum and supported a cradle-shaped, two-sleeved pocket of the same fabric as the pontoons, in which the motor rested.

These "water blimps," as they are aptly called, have attracted such favorable comment that the manufacturers have standardized the fastening bracket and placed it on the market in all sizes for their boats. It is expected that the new development will meet with favor by fishermen and other outdoor enthusiasts, as both the boat when deflated and the motor are very light in weight and so compact as to be easily carried or packed in a car.

Rubber News Around the World

AMERICAN TIRES LEAD IN TURKISH MARKET

Tire sales on the Turkish market during the second quarter of 1932 are estimated by local tire distributors to have been from 25 to 35 per cent less than in the corresponding period of 1931, according to reports of the Department of Commerce. This decrease is explained by the general depressed condition of business, the tightness of money, and the reduction of the number of automotive vehicles in circulation. Sales of American tires, however, were well maintained during the quarter, and were affected less by the falling off in sales than tires of European manufacture.

The import quota restrictions on tires which were in effect during the first quarter affected distributors of American tires to a much greater extent than distributors of Continental tires, who were able to obatin prompt shipments of stocks from France and England, and to clear them under the import quotas which were set up for the first three months of the year. Tires were placed on the unrestricted import list on April 1, however, and distributors of American tires were able to clear their shipments and fill orders from local agents and dealers. Stocks of all sizes were completed, particularly those in greatest demand, which command a ready sale from purchasers who generally prefer American tires. Sales of some distributors of American tires were only about 10 per cent less than last year, while the sales of two distributors of tires of American manufacture exceeded their sales in the corresponding period of last year.

Michelin tire sales during the quarter under review were successful primarily in passenger-car tires, which met with a ready sale in the Istanbul, Izmir, Ankara, and Konia districts. Sales of passenger-car tires were greatly stimulated by the liberal credit facilities offered by the Michelin distributors. On the other hand, sales of Michelin truck and high-pressure tires are reported to have declined considerably, except for their 34 by 7 truck tire, which is generally admitted by all distributors of American tires to have given very satisfactory results.

The Dunlop distributors are reported to have been the keenest of all competitors during the period under review. American tires sold during the quarter under review are reported to have given very satisfactory results. The preference for American tires, which had been anticipated, materialized. American tires are generally believed to have controlled about 65 per cent of total tire sales.

Tire sales during the third quarter should show a certain seasonal increase as compared to those in the second quarter. Certain distributors of American tires anticipate an increase in their sales at the expense of Michelin and Dunlop.

Korean Rubber Industry

Official statistics of Korea indicate the growing importance of the local rubber manufacturing industry. Imports of crude rubber, largely from Japan, have been as follows: 1927—55,307 pounds; 1928—3,667,383; 1929—3,718,248; 1930—5,946,426; 1931—6,530,435; and first four months 1932—3,179,942 pounds.

Rubber footwear is the most important product of the Korea industry; in 1930 the production of rubber footwear amounted to 11,093,881 pairs, valued at approximately $2,726,236. China, principally Manchuria, has been the most important market for rubber footwear manufactured in Korea.

Malayan Output in July

Production of crude rubber on large and small estates in British Malaya totaled 35,356 tons during July, according to cable advices received by the Rubber Exchange of New York, Inc. This compares with a production of 30,701 tons during June. Outputs last month were 14,736 tons on small estates, against 11,182 tons in June, and on large estates 20,620 tons, against 19,519 tons in the previous month.

Estate stocks were 20,591 tons at the end of July, compared with 21,053 tons at the close of June, and dealers holdings totaled 21,008 tons, compared with 22,941 tons at the end of the previous month.

D. E. I. Rubber Exports Less

Shipments of crude rubber by the Dutch East Indies during July, reached a total of 18,472 tons, compared with exports of 18,932 tons during June and with 25,293 tons during July, 1931.

The decrease was accounted for, however, by smaller shipments from only the east coast of Sumatra, while July rubber exports from the rest of Sumatra, Java, Madeira, Borneo and Celebes all registered increases over June.

Booklet on Hard Rubber

New information on hard rubber in sheet, rod and tubing form has just been issued in a new booklet published by the B. F. Goodrich Rubber Company, Akron, Ohio.

The opening paragraph of the booklet says: "During recent years many 'substitutes for hard rubber' have appeared. So far there has been none in which are combined the many desirable properties of hard rubber itself."

Among subjects taken up in the booklet are the properties of hard rubber goods; resistance to chemicals; machining qualities; finish and tolerances; possible variations; suggestions for machining; and weights of hard rubber.

EFFECT OF CRISIS ON WHITES IN MALAYA

G. Cornwallis-West, the well-known British journalist, has recently visited Malaya to find out how the rubber crisis has affected the European population. His quest has proved most illuminating. Malaya, he found, was "a country, presumably inhabited by Malays, governed by the English, and run entirely for the benefit of the Chinese." The beautiful villas of Penang and Singapore are not the property of wealthy British planters and traders, but all belong to the prosperous Chinese. There is scant wealth among the white races.

"Whereas, in Ceylon, tea is the saving grace of that colony's products, the Malay planter has, unfortunately, nothing to fall back upon," Mr. Cornwallis-West declares. "His existence has become a nightmare of uncertainty. Any day, by reason of further cutting down of expenditure, he may receive his dismissal from London. So dire is the distress that many who have lost their jobs have been allowed to engage permanently in the Singapore Volunteers, and are paid by a kindly Government sufficient to pay for the bare necessities of life. In every public place subscription lists have been opened to provide for unemployed whites. Their tragedy is far greater in the East than at home."

August Rubber Shipments Less

Gross exports of crude rubber from British Malaya during August were 39,367 tons, according to cabled advices to the Rubber Exchange of New York, Inc., This compares with 40,723 tons shipped during July, and with a gross total of 42,832 tons exported during August, 1931.

Ceylon's shipments increased last month, the total being 5,585 tons, compared with 3,121 tons during July, and with 3,756 tons during August, 1931. Of this amount, 3,604 tons were exported to the United States, against 1,536 tons in July, and 2,796 tons in August, last year.

Tire Factory in Java

It is reported through the Department of Commerce that a Chinese firm, Ong Swi Pan, of Semarang, Java, will shortly begin the manufacture of bicycle and automobile tires, with a scheduled daily production of 200 tires.

Monsanto Gas Well

Drillings in the Monsanto Chemical Works plant at Nitro, West Virginia, have been successful in bringing in a natural gas well with an estimated capacity of 1,000,000 cubic feet a day. Arrangements are promptly being made to put this gas under the boilers of the plant. It will replace coal formerly burned and will displace the natural gas previously purchased for process use in the operating departments. A considerable saving will be involved.

AMERICAN TIRES LOSING IN AUSTRIAN MARKET

American tires lost their leading position among foreign tires in the Austrian market during the second quarter of 1932, because a number of American manufacturers discontinued or restricted their activities in that country. The Austrian makes, however, did not profit so much thereby as did certain other foreign tires, according to the reports of the Department of Commerce. The Austrian Semperit Reithoffer tires, for example, approximately maintained their former position in the market, while nearly all other foreign tire makers took advantage of the attitude of American and also Belgian tire exporters. Increased participation in the local tire sales was considerable in the case of British, French, and German tires, and as an outsider a Russian manufacturer succeeded in introducing a few samples of a new brand into Austria via Switzerland.

English, French, Italian, and German exporters accept partial payment in dollars or other foreign currency and the major portion in schillings and Austrian goods, liquidating these latter through private clearings and compensation agreements, respectively. A few European suppliers, likewise some American exporters, began to utilize their otherwise frozen schilling accounts by purchasing real estate, which investments they partly realize on by taking hypothecaries. By buying real estate they also minimize the risk of schilling devaluation.

Of the American manufacturers, only two are continuing their sales, while others are liquidating their stocks. The former representative of one American make is now selling also a new German tire, another such former agent is handling a new Russian tire, and others are offering Austrian brands. All these agents have to look for new lines in order to secure sufficient profitable volume to at least cover operating expenses, and all of them would be only too glad to return to their former principals selling exclusively American tires, provided it were possible to pay their overhead and realize a moderate profit out of such sales.

Austrian imports of automotive tires during the first five months of 1932 totaled 371 metric tons, valued at 1,581,000 schillings, as compared with 333 tons, valued at 1,766,000 schillings, in the same period of 1931. Imports of tubes amounted to 45 metric tons, valued at 247,000 schillings, and 42 tons, worth 261,000 schillings, in the respective periods.

Of tires, the United States supplied 73 metric tons, valued at 319,000 schillings, in the 1932 period, and of tubes it furnished 6 tons, valued at 34,000 schillings.

Vanderbilt on 5-Day Week

In keeping with the recommendations of the committee headed by Walter C. Teagle, of the Standard Oil Company of New York, recently appointed by President Hoover, the R. T. Vanderbilt Company, New York City, have announced that effective September 1, they have adopted the 5-day week by the elimination of the half-day on Saturdays. The company, in a letter sent to the trade, is asking that orders be sent in, wherever possible, so as to reach them not later than Friday of each week.

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Address replies to Box Numbers.
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WANTED—TWO SALESMEN with technical training and broad compounding experience to sell compounding materials. Straight salary. Address Box 676, THE RUBBER AGE.

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RUBBER COMPOUNDER—Age 33, married. Six years experience with soles and heels; four years tires, tubes and sundries with large concern. Familiar with laboratory and factory practice. Experience in handling men. Good references, technical education. Address Box 675, THE RUBBER AGE.

Rubber Technologist

CHEMIST, Chemical Engineer, experienced in all phases of the Rubber Industry. Unemployed and available for permanent connection or consultation.

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10 High Pressure Cylinders

7 x 74 ft. ¾ in. Built for 180 lbs. Suitable for Rubber & other uses, Track on Inside—Brand New—Very Low Price To Move Quick.

ZELNICKER, Inc.
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Bargains in Storage & Pressure Tanks, Oil Engines, Generators, Rails, etc.

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LATE MARKET PRICES

RUBBER—COTTONS AND FABRICS—CHEMICALS

NEW YORK, SEPTEMBER 6, 1932

Crude Rubber

THE rise in the crude rubber market has been well sustained during the last two weeks with special activity evident on the Rubber Exchange of New York. The advance is largely in sympathy with other commodity increases and the general optimism which has prevaded the business and industrial world during the last month. The situation needs close watching and present values can only hope to be maintained by an increase in manufacturing. Stocks of crude rubber are still high and shipments, while falling slightly, have not seriously influenced the statistical position of the commodity. The London market is following the New York trend, but with caution, as a further rise in price may tend to bring back production on many of the rubber areas where tapping has been temporarily discontinued, thereby causing a return to overproduction.

Prices as of September 6, as reported on the New York outside market were as follows:

Plantations—

Ribbed Smoked Sheets—			
Spot-Sept.	—	@	.04 11/16
Oct.-Dec.	—	@	.04¾
Jan.-Mar.	—	@	.04⅞
First Latex, crepe spot	.05⅛	@	.05¼
Amber Crepe, No. 2	.04⅝	@	.04 7/16
Amber Crepe, No. 3	.04 5/16	@	.04⅜
Amber Crepe, No. 4	—	@	.04¼
Brown Crepe, Clean thin	—	@	.04⅜
Brown Crepe, rolled	—	@	.03⅞

Latex—

Liquid Latex, per gal.	.70	@	.75

Paras—

Up-river, fine	—	@	.07
Up-river, coarse	Nominal		
Acre, Bolivian, fine	—	@	.07½
Caucho Ball, Upper	—	@	.03

Centrals—

Central scrap	.04	@	—
Esmeraldas	.04	@	—

Balata—

Block, Ciudad	—	@	.18

LONDON MARKET

Standard Ribbed Smoked Sheets—Buyers

Sept.	—	@	3 3/32d
Oct.-Nov.	3⅛	@	3 5/32d

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—Sellers

Spot	——	@	2 27/32d

Reclaimed Rubber

There has been no change in the price levels on the standard grades of reclaimed rubber during the last two weeks. Demand has been weak and curtailment in production continues. The ratio of reclaimed used to crude rubber during July, however, showed a slight increase. Latest prices for the more standard grades follow:

High Tensile				
High Tensile Red	lb.	.04¾	@	.05
Super-Reclaim Black	lb.	.05	@	.05¼
Shoe				
Washed	lb.	.05⅛	@	.05¾
Tube				
No. 1 (Floating)	lb.	—	@	.06½
No. 2 (Compounded)	lb.	.04½	@	.04¾
Tires				
Black	lb.	.03¾	@	.04
Black, selected tires	lb.	.04	@	.04¼
Dark Gray		.05	@	.05¼
Light Gray	lb.	.05½	@	.06
White	lb.	.05½	@	.05¾
Truck, Heavy Gravity	lb.	.05	@	.05¼
Truck, Light Gravity	lb.	.05¼	@	.05½
Miscellaneous				
Mechanical blends	lb.	.03	@	.03½

Scrap Rubber

The market in scrap rubber has been extremely dull over the past fortnight. The demand from reclaiming plants continues so low as to drive many scrap dealers out of the market and prices remain at a level which make it almost impossible for junk men to make accumulations. A feeling exists that conditions will improve in the scrap market with any appreciable rise in general business and particularly the crude rubber commodity market, and an attitude of watchful waiting prevails. No price changes have been reported during the fortnight. Late prices follow:

(Prices to Consumer)

Auto tire peelings	ton	12.50	@	14.00
Mixed auto	ton	6.50	@	7.50
Clean solid truck tires	ton	20.00	@	22.00
Boots and shoes	ton	15.00	@	17.50
Arctics, untrimmed	ton	10.00	@	12.50
Inner tubes, No. 1	lb.	.02¼	@	.02½
Inner tubes, No. 2, compounded	lb.	.01	@	.01¼
Inner Tubes, Red	lb.	.01½	@	.01¾
Air Brake Hose	ton	8.00	@	8.50
Rubber Hose	ton	6.00	@	8.00

Cotton

COTTON has continued to advance on the strength of unfavorable crop reports and a steadily increasing demand from the mills. The action of the Farm Board in withholding its surplus until January at least, further stimulated the market. Government reports of production at approximately 11,000,000 bales, have also helped to raise price levels. More manufacturing activity in mill centers is being reported and export demand is being fairly sustained.

High, low and closing prices on the New York Cotton Exchange, as of September 6, were reported as follows:

	Sept. 6			Aug. 19
	High	Low	Close	Close
Sept.	——	——	8.78	——
Oct.	9.20	8.85	8.86	7.55
Dec.	9.30	9.02	9.03	7.71

Tire Fabrics

A dullness continues to prevail over the market in spite of attractive prices and the rise in cotton. Better prices are being asked on the basis of the cotton advance and are being maintained despite lack of demand. The latest quotations on the most popular constructions are as follows:

(Prices Net at the Mill)

CORD				
Peeler, carded, 23/4/3	lb.	.21¾	@	.22
Peeler, carded 23/5/3	lb.	.20¾	@	.21
Peeler, carded, 13/3/3	lb.	.17¾	@	.18
Peeler, carded, 15/3/3	lb.	.18¾	@	.19
Egyptian, carded, 23/5/3	lb.	.31¾	@	.32
Egyptian, combed, 23/5/3	lb.	.36¾	@	.37
CHAFERS				
Carded, American, 8 oz.	lb.	.16½	@	.17
Carded, American, 10 oz.	lb.	.16½	@	.17
Carded, American, 12 oz.	lb.	.16½	@	.17
Carded, American, 14 oz.	lb.	.16	@	.16½
LENO BREAKER				
Carded, American, 8¼ oz.	lb.	.17	@	.20
Carded, American, 10¼ oz.	lb.	.17	@	.20
SQUARE WOVEN				
Carded, American, 17¼ oz. 23-11 ply	lb.	.20½	@	.21½
Carded, American, 17¼ oz. 10 ply	lb.	.16	@	.16½

Sheetings

Prices on all sheeting grades rose sharply during the last fortnight, in line with raw cotton levels and on the strength of a fairly good demand. New prices for the chief constructions used in the rubber industry are reported as follows:

40 inch, 2.50 yard	yd.	.06¾	@	.07
40 inch, 2.85 yard	yd.	.06	@	.05¼
40 inch ,3.15 yard	yd.	—	@	.06⅛
40 inch, 3.60 yard	yd.	—	@	.05⅝
40 inch, 3.75 yard	yd.	—	@	.05
40 inch, 4.25 yard	yd.	—	@	.04¾

Ducks

The market for ducks has somewhat improved as a result of the increased activities at the mills but there is little or change in the price situation on those constructions used in the rubber industry. Late quotations follow:

Enameling	lb.	.15	@	.17
Belting and Hose	lb.	.18	@	.18½
Single filling	lb.	.07¼	@	.07¾
Double filling	lb.	—	@	.09

Closing Prices on Rubber Exchange of New York, Inc.

No 1 Standard Contract of 10 Tons*

FROM AUGUST 22 TO SEPTEMBER 6, 1932

Date	Spot	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Sales
Aug. 22	3.52	3.44	3.48	3.54	3.59	3.65	3.73	3.80	3.88	3.91	78
23	3.59	3.50	3.54	3.60	3.65	3.70	3.79	3.87	3.95	3.99	142
24	3.75	3.64	3.68	3.75	3.82	3.90	3.97	4.05	4.12	4.16	218
25	3.90	3.78	3.82	3.89	3.95	4.02	4.09	4.15	4.22	4.28	225
26	3.93	3.81	3.85	3.93	4.00	4.07	4.14	4.21	4.28	4.33	253
29	4.44	——	4.32	4.43	4.53	4.63	4.71	4.78	4.86	4.91	492
30	4.50	——	4.38	4.49	4.60	4.70	4.78	4.86	4.93	4.99	437
31	4.32	——	4.19	4.25	4.31	4.38	4.46	4.55	4.63	4.67	278
Sept. 1	4.12	——	4.02	4.08	4.14	4.21	4.30	4.37	4.44	4.47	194
2	4.20	——	4.16	4.22	4.29	4.35	4.43	4.51	4.59	4.64	116
6	4.63	——	4.40	4.47	4.54	4.60	4.68	4.76	4.84	4.90	204

*This contract will be superseded by "No. 1 B Standard" on April 1, 1933.

CHEMICALS

THE general upturn in industrial conditions has prompted a slight revival in rubber chemicals. At least, there is more interest being displayed in the newer chemical products than for some time. As regards basic rubber compounding materials the market is still dull with stocks high and prices necessarily low. Price changes reported during the fortnight include reductions in carbon black to 2.72 cents per pound f.o.b. Texas and 2.82 cents f.o.b. La. Litharge and stearic acid, advanced slightly. Several pigments also registered slight declines during August. Latest quotations follow:

ACCELERATORS

Organic			
A-1	lb.	.24 @	.27
A-5-10	lb.	.33 @	.36
A-7	lb.	.55 @	.59
A-11	lb.	.62 @	.66
A-16	lb.	.57 @	.61
A-19	lb.	.58 @	.62
A-20	lb.	.64 @	.68
A-32	lb.	.80 @	.95
Aldehyde amonia, crystals	lb.	.65 @	.67
Altax	lb.		
Captax	lb		
Crylene	lb.	.55 @	.65
paste	lb.	.45 @	.55
Di-Ortho-Tolyguanidine	lb.	.42 @	.43
Diphenylguanidine	lb.	.30 @	.32½
Ethylidene aniline	lb.	.45 @	.47½
Formaldehyde aniline	lb.	.37½@	.40
Heptene	lb.	.40 @	—
Hexamethylene-tetramine	lb.	.58½@	.59½
Lithex	lb.	.18 @	.20
Methylenedianiline	lb.	.37½@	.40
Monex	lb.	3.25 @	—
Oxynone	lb.	.68 @	.80
Phenex	lb.	.50 @	.55
R & H 40	lb.	.40 @	.41
R & H 50	lb.	.40 @	.41
R & H 397	lb.	.75 @	.76
R-2	lb.	1.95 @	2.15
Safex	lb.	1.20 @	1.25
SPDX	lb.	.75 @	—
Super-Sulphur No. 1	lb.		
No. 2	lb.		
Tensilac, No. 39	lb.	.40 @	.42½
Tensilac, No. 41	lb.	.50 @	.52½
Thermio F	lb.	.50 @	.55
Thiocarbanilid, drums	lb.	.20 @	.22
TMTT	lb.	3.00 @	3.25
Trimene	lb.	.75 @	—
base	lb.	1.20 @	—
Triphenylguanidine	lb.	.58 @	.60
Tuads	lb.		
Ureka	lb.	.75 @	1.00
Vulcanex	lb.		
Vulcone	lb.		
Vulcanol	lb.		
Z-88-P	lb.	.50 @	.60
Zimate	lb.		
Inorganic			
Lead, sublimed blue	lb.	.08¼@	—
Lead, white	lb.	.08½@	.08¾
Litharge, domestic	lb.	.05¾@	—
Magnesia, calcined,			
light	per 100 lb.	5.35 @	5.45
heavy	per 100 lb.	3.65 @	3.75

COLORS

Blacks (See Compounding Materials)

Blues			
Prussian	lb.	.35 @	.36
Ultramarine	lb.	.06 @	.32
Browns			
Sienna, Italian	lb.	.05½@	.12½
Umber, Turkey	lb.	.04½@	.07
Greens			
Chrome, light	lb.	.30 @	.32
medium	lb.	.31 @	.33
dark	lb.	.34 @	.36
Chromium Oxide, bbl.	lb.	.34½@	.35½
Reds			
Antimony			
crimson, 15/17	lb.	.40 @	.44
sulfur, free	lb.	.56 @	.66
golden, 15/17 F.S.	lb.	.20 @	.25
Indian English	lb.	.08 @	.11
Domestic (Maroon)	lb.	.11 @	—
Red oxide, pure	lb.	.10 @	.12
Rub-Er-Red, f.o.b. Easton	lb.	.08¾@	—
Whites			
Lithopone, Albalith	lb.	.04½@	.04¾
Lithopone, Azolith	lb.	.04½@	.04¾
Titanium oxide	lb.	.21 @	—
Titanox B	lb.	.06½@	.07
Titanox C	lb.	.06½@	.07
Zinc Oxide—American Process			
American Azo:			
ZZZ (lead free)	lb.	.05¾@	.06
ZZ (leaded)	lb.	.05½@	.05¾
Horsehead Lead Free Brand:			
Selected	lb.	.05¾@	.06
Special	lb.	.05¾@	.06
XX Red	lb.	.05¾@	.06
XX	lb.	.05¾@	.06
XX Green	lb.	.05¾@	.06
Leaded Brand, Standard	lb.	.05½@	.05¾
Sterling	lb.	.05½@	.05¾
Superior	lb.	.05½@	.05¾
Lehigh	lb.	.05¼@	.05½
U. S. P., bbls.	lb.	— @	.12¾
Kadox, black label	lb.	.09⅝@	.09⅞
Blue label	lb.	.08⅝@	.08⅞
Red label	lb.	.07¼@	.07½
Cryptone, No. 19	lb.	.06½@	.06¾
Cryptone CB, No. 21	lb.	.06½@	.06¾
XX Zinc Sulphide, bbls.	lb.	— @	.13
St. Joe, black label	lb.	.05¾@	.06
green label	lb.	.05¾@	.06
red label	lb.	.05¾@	.06
Zinc Oxide—French Process			
Anaconda, lead free	lb.	.05¾@	.06
Anaconda, selected lead free	lb.	.06¼@	.06½
Florence White seal, bbls.	lb.	— @	.10⅞
Green seal	lb.	.09⅝@	.09⅞
Red seal	lb.	.08⅝@	.08⅞
Yellows			
Chrome	lb.	.16½@	.17
Ocher, domestic	lb.	.01⅝@	.02

BLACKS

Arrow "Aerfloted"			
c.l. f.o.b. works, bags	lb.	.02¾@	—
c.l. f.o.b. works, cases	lb.	.04¼@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
Arrow "Aerfloted" Specification, c.l. f.o.b. wks., bags	lb.	.03 @	—
Bone, powdered	lb.	.05½@	.12½
Carbon, compressed	lb.	.02¾@	.07
uncompressed	lb.	.02¾@	.07
"Certified," Cabot			
c.l. f.o.b. works, bags	lb.	.02¾@	—
c.l. f.o.b. works, cases	lb.	.04¼@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
"Disperso" f.o.b. La.	lb.	.028 @	.071
f.o.b. Texas	lb.	.02¾@	.07
Drop, bbls.	lb.	.05½@	.14
"Excello," compressed	lb.	.03 @	—
"Fumonex"	lb.	.02½@	.06
"Gastex"	lb.	.02½@	.06
Lampblack	lb.	.07 @	.10
"Micronex"			
c.l. f.o.b. works, bags	lb.	.03 @	—
c.l. f.o.b. works, cases	lb.	.04½@	—
less c.l. f.o.b. works	lb.	.05½@	.07
"Supreme"	lb.	.02¾@	—
Thermatomic—"P 33"	lb.	—	—
"Thermax"	lb.	—	—
United, "Dixie" and "Kosmos"			
c.l. f.o.b. works, bags	lb.	.02¾@	—
c.l. f.o.b. works, cases	lb.	.04¼@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
"Velvetex"	lb.	.02 @	.05

COMPOUNDING MATERIALS

Aluminum Flake	ton	21.85 @	24.50
Ammonia carbonate, lump	lb.	.10½@	.12
Asbestine	ton	13.40 @	14.00
Barium carbonate	ton	56.50 @	57.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color	ton	12.00 @	18.00
Western prime white	ton	33.00 @	—
Basofor	lb.	.04½@	—
Bentonite	lb.	.02 @	.03
Blanc fixe dry f.o.b. works	ton	75.00 @	90.00
Carrara filler	lb.	.01¾@	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk, precipitated			
Suprex white, extra lt.	ton	60.00 @	70.00
heavy	ton	45.00 @	55.00
Clay, Kaolin, domestic	ton	8.00 @	9.00
Aerfloted, Suprex	ton	6.50 @	8.00
Congaree	ton	9.00 @	—
Dark Blue Ridge	ton		
Dixie	ton		
Langford	ton		
Lexington	ton	10.00 @	22.00
Par	ton		
Tensulite		15.00 @	—
Glues, extra white	lb.	.20 @	.25
medium white	lb.	.16 @	.20
Kalite No. 1	ton	30.00 @	55.00
Kalite No. 3	ton	40.00 @	65.00
Magnesia, carbonate	lb.	.08¾@	.11
Mica	lb.	.04½@	—
Rotten Stone (powdered)	lb.	.02 @	.05
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	— @	2.57
Talc, domestic	ton	12.00 @	15.00
Pyrax A	ton		
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	1.70
Sussex	ton		
Witco	ton	20.00 @	—
Zinc Carbonate	lb.	.09½@	.10½
Zinc Stearate	lb.	.18½@	.22

MINERAL RUBBER

Genasco (factory	ton	40.00 @	42.00
Granulated M. R.	ton		
Hard Hydrocarbon	ton		
Parmr, solid	ton	28.00 @	48.00
Pioneer. MR, solid	ton	40.00 @	42.00
Pioneer-granulated	ton	50.00 @	52.00
R & H Hydro-Carbon	ton	27.05 @	29.00

SOFTENERS

Acids			
Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulfuric, 66 degrees	cwt.	1.60 @	1.95
Tartaric, crystals	lb.	— @	.26½
Acids, Fatty			
Laurex	lb.	.15 @	.16
Stearex	lb.	.08 @	.12
Stearic, double pressed	lb.	.17 @	.22
Alkalies			
Caustic soda, 76%	cwt.	2.90 @	—
Soda ash, 58% C.L.	cwt.	1.17½@	—
Oils			
Corn, refined, bbls.	lb.	.07 @	.08¾
Cottonseed, crule		— @	.04¾
Cycline	gal.	.27 @	.34
Degras (c.l. 100 bbls.)	lb.	.03¾@	—
Less c.l. (10-25 bbls.)	lb.	.04 @	—
Lots less than 10 bbls.	lb.	.04¼@	.04½
Fluxrite	lb.	.05½@	.06½
Palm Lagos	lb.	.04 @	.05
Niger	lb.	.03½@	.04
Para-Flux	gal.	.17 @	—
Petrolatum, white	lb.	.08 @	.08½
Pigmentaroil	gal.	.18 @	.23
Pine, steam distilled	gal.	.54 @	.61
destructively distilled gal.		.54 @	.55
Witco Palm Oil	lb.	.07½@	—
Witco Softener (f.o.b. wks.)	lb.	.02 @	—
Resins and Pitches			
Pitch, Burgundy	lb.	.06½@	.07½
coal tar	gal.	.05½@	.06
pine, 200 lb. gr. wt. bbl.		7.00 @	—
Rosin, grade K, 280 lb. bbl.		— @	4.60
Pigmentar	gal.	.18 @	.22
Tar Retort, 50 gal.	bbl.	13.50 @	15.00
Solvents			
Acetone, pure	lb.	— @	.10
Alcohol, denatured,			
No. 1 bbls.	gal.	.28 @	.29
Benzol, 90%	gal.	.20 @	.21
Carbon, bisulfide	lb.	.05½@	.06¼
Carbon, tetrachloride	lb.	.06¼@	.07
Dryolene (f.o.b. Okla.)	gal.	.10 @	.10½
Gasoline, steel bbls.	gal.	.16 @	—
Naphtha, solvent	gal.	.26 @	.28
Rub-Sol (f.o.b. Okla.)	gal.	.09 @	—
Turpentine, spirits	gal.	— @	.37¼
wood	gal.	— @	.40
destructively distilled	gal.	.35 @	—
Waxes			
Beeswax, white	lb.	.34 @	.36
Carnauba	lb.	.26 @	.28
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06½@	.07
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
Paraffin (c.l.—f.o.b. N. Y.)			
Yellow crude scale	lb.	.02½@	—
White crude scale 124/126	lb.	.02½@	—
Refned, 125/127	lb.	.03¾@	—
Refined, 128/130	lb.	.03¾@	—
Refined, 135/137	lb.	.05¼@	—
Refined, 138/140	lb.	.07¼@	—

ANTI-OXIDANTS

AgeRite, Gel	lb.		
Powder	lb.		
Resin	lb.		
White	lb.		
Albasan	lb.	.70 @	.75
Antox	lb.		
B-L-E	lb.	.57 @	.60
Neozone	lb.		
Oxynone	lb.	.68 @	.80
Resistox	lb.	.54 @	.57
Retardex	lb.	.35 @	.40
Stabilite	lb.	.57 @	.62
Stabilite Alba	lb.	.70 @	.75
VGB	lb.	.55 @	.66

SPECIALTIES

Aromatics- Rodo	lb.		
Sunproof	lb.	.35 @	.37½
Sponge Paste	lb.	— @	.30
Tonox	lb.	.56 @	.60

SUBSTITUTES

Black	lb.	.07 @	.09
White	lb.	.08 @	.14
Brown	lb.	.07 @	.11

VULCANIZING INGREDIENTS

Sulfur Chloride (drums)	lb.	.03½@	.04½
Sulfur flour,			
Ref'n'd, 100% pure (bags)	cwt.	2.40 @	2.75
Commercial (bags	cwt.	1.75 @	2.10
Telloy	lb.		
Vandex	lb.		

TIRES & TUBES
CRUDE RUBBER

STATISTICAL SECTION

AUTOMOBILES
GASOLINE

THE statistical position of crude rubber has somewhat improved during the last fortnight. While consumption was low for July, totaling only 28,272 tons as compared to 39,116 tons in June, the imports were correspondingly low, which maintained the domestic stocks at a more constant figure. Stocks abroad show a decline of approximately 15,000 tons. This would indicate a slight improvement in seeking to balance production and consumption. Reports also indicate that estate production and native output in the D. E. I. will show a material falling off in the following months, should prices remain near present levels.

Prices in the crude rubber market rose during the fortnight, more out of sympathy with other commodities than by virtue of any justifiable increase in line with the position of the commodity. Rubber touched 4⅝ cents on the New York outside market,—almost a record for the year.

Automobile production declined sharply, but this is claimed to be seasonal and anticipatory to Fall changes in models. Rim inspections also registered a sympathetic drop. Cotton prices showed a sharp advance, but this has been somewhat justified by crop reports and renewed mill demands.

Latest figures covering imports and exports of crude rubber from leading producing and consuming centers are included in the appropriate tables in this section.

PLAN OF THE SECTION

The statistics included in this section have been chosen for their constant importance to the rubber industry. The tables are reprinted in the same relative position in every issue, each table being kept current by the addition of new figures as soon as they become available.

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U. S. Imports and Exports of Crude Rubber

	Gross Imports			Re-exports			Net Imports
YEARS	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926	413,338	505,817,807	54.63	17,671	22,470,583	56.77	395,667
1927	426,258	389,874,774	35.60	27,775	24,735,488	39.76	398,483
1928	439,731	244,854,973	25.03	32,159	18,128,361	25.17	407,572
1929	560,084	239,178,783	19.15	36,485	16,868,733	20.64	523,599
1930	482,082	139,134,330	12.89	30,205	9,316,205	13.77	451,877
1931	497,138	72,918,949	6.54	25,595	4,255,572	7.42	471,543
1930:							
Jan.	47,496	17,793,563	16.72	3,144	1,077,415	15.30	44,352
Feb.	42,687	14,795,240	15.48	2,280	960,790	18.80	40,407
Mar.	44,976	14,653,243	14.54	3,187	1,192,708	16.71	41,789
Apr.	45,423	14,783,605	14.53	2,688	892,532	14.82	42,735
May	42,692	13,373,232	13.98	3,154	1,085,432	15.37	39,538
June	39,993	12,215,848	13.79	3,174	1,028,653	14.47	36,819
July	35,182	10,553,944	13.39	2,807	759,260	12.08	32,375
Aug.	35,713	9,666,362	12.08	2,357	655,773	12.42	33,356
Sept.	35,380	8,460,812	10.68	1,514	430,772	12.70	33,866
Oct.	46,069	9,893,980	9.59	2,432	419,325	7.70	43,637
Nov.	29,401	5,700,086	8.66	1,300	271,348	9.32	28,101
Dec.	37,300	7,175,242	8.59	2,168	542,197	11.17	35,132
1931:							
Jan.	36,307	7,190,591	8.84	1,706	350,480	9.17	34,601
Feb.	34,005	6,564,969	8.62	1,799	357,078	8.86	32,206
Mar.	40,393	7,356,505	8.13	2,800	534,180	8.52	37,593
Apr.	44,536	7,712,941	7.73	2,607	528,947	9.06	41,929
May	35,526	5,886,638	7.40	2,501	418,301	7.47	33,025
June	46,233	6,918,900	6.68	2,749	440,604	7.15	43,484
July	43,469	6,023,748	6.19	1,435	228,587	6.96	42,034
Aug.	38,669	5,138,404	5.93	2,324	345,953	6.65	36,345
Sept.	38,494	4,970,324	5.76	1,362	187,431	6.14	37,132
Oct.	41,131	4,803,582	5.21	1,527	203,574	5.95	39,604
Nov.	43,435	4,742,218	4.72	1,403	198,284	6.31	43,435
Dec.	53,536	5,610,129	4.68	2,462	326,382	5.91	51,070
1932:							
Jan.	33,221	3,387,505	4.55	1,524	185,466	5.43	31,697
Feb.	27,959	2,690,250	4.29	1,915	222,584	5.19	26,044
Mar.	45,197	4,251,801	4.19	2,227	240,128	4.84	42,970
April	37,903	3,181,343	3.74	2,128	196,934	4.53	35,775
May	34,182	2,798,914	3.71	1,505	144,561	4.30	32,677
June	40,808	2,647,085	2.89	1,981	134,336	3.02	39,136
July	32,306	2,102,915	2.91	2,030	179,699	3.95	30,276

U. S. Consumption of Crude Rubber

(Rubber Manufacturers' Association statistics raised to 100 per cent—All figures in long tons)

	Figures on Monthly Basis							
Jan.	29,638	32,196	31,518	34,403	43,002	36,194	28,557	27,962
Feb.	29,761	31,136	30,137	33,702	41,594	33,302	28,797	30,011
Mar.	33,498	32,936	36,141	35,688	44,730	35,540	32,788	27,828
Apr.	34,139	32,696	35,871	32,772	47,521	39,686	33,321	25,953
May	35,322	29,364	34,592	37,333	49,233	39,386	37,317	29,197
June	35,822	28,598	33,801	37,676	43,227	34,195	37,916	39,116
July	36,053	27,577	29,219	37,407	41,526	29,508	31,937	28,272
Aug.	35,909	34,533	33,460	42,927	38,274	30,850	27,586	—
Sept	31,691	32,904	27,214	39,882	34,707	25,515	23,638	—
Oct.	29,047	29,936	26,790	40,857	34,800	27,516	22,277	—
Nov.	28,253	28,080	26,792	37,461	27,659	23,691	22,943	—
Dec.	28,748	26,293	25,492	31,232	23,531	21,687	21,409	—
Totals	388,481	366,149	371,027	441,340	469,804	375,980	348,986	—

	Figures on Quarterly Basis							
Quarter	1925	1926	1927	1928	1929	1930	1931	1932
Jan./Mar.	95,263	94,301	99,216	103,558	128,565	101,610	89,652	85,309
Apr./June	104,099	87,109	103,242	103,500	139,292	112,229	107,755	92,643
July/Sept.	99,493	93,793	89,210	117,573	113,746	85,261	83,632	—
Oct./Dec.	85,789	83,212	80,860	117,597	84,872	72,020	65,645	—
Totals	384,644	358,415	372,528	442,227	466,475	371,120	346,684	—

Note—The Rubber Association estimates its monthly rubber consumption figues to be 80 per cent complete. Up until 1925 the quarterly figures were likewise estimated to be 90 per cent complete; beginning with 1925 an estimate of 92 per cent completeness has been used. These estimates have been used in raising the figures in this table to 100 per cent. The quarterly figures are generally regarded as the most authentic; the monthly figures may be accepted as preliminary.

U. S. Consumption of Gasoline

(In Thousands of Barrels of 42 Gallons)

	1930	1931	1932		1930	1931	1932
January	25,731	26,544	26,845	July	38,256	39,459	31,317
February	26,509	26,138	25,344	August	37,433	39,459	—
March	31,029	31,037	29,451	September	37,823	36,670	—
April	34,549	33,400	30,252	October	32,267	35,051	—
May	36,497	35,716	31,574	November	30,984	30,640	—
June	35,902	38,375	38,766	December	29,094	30,529	—

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

1930	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ave.
January	—	15¾	15⅝	15⅝	—	15⅝	15⅝	15	14⅝	14⅝	14⅝	—	—	14⅝	14⅝	14⅝	15½	15½	15½	14⅝	14⅝	14⅝	16¼	15¾	15¾	15¾	15⅝	15¾	15¾	15¾	15¾	15¾
February	—	15¼	15	15	15¼	15⅝	15½	15¼	—	15⅝	16	—	—	15⅝	15⅝	15⅝	16¼	16½	16½	16⅝	16⅝	16½	16	15¾	15⅝	16	15⅝	15⅝	15⅝	—	—	15⅝
March	—	15¾	15⅝	15	15¼	15⅝	15⅝	15⅝	—	15⅝	15	15	15½	15⅝	15⅝	15⅝	—	15⅛	15¾	15¼	15½	15⅝	16	16⅛	16⅛	16⅛	16⅛	16⅛	—	—	15⅝	15⅝
April	—	15½	15½	15¼	15¼	15¼	15¼	15¼	15¼	15½	15½	15½	15½	15⅝	15⅝	15	15	—	—	15	15	14⅝	14⅝	14¾	14⅝	14⅝	14¼	14¼	14¼	14¼	—	15
May	—	14⅝	14½	14¼	14¼	14¼	14¼	14⅝	14⅝	14⅝	14⅝	14⅝	14⅝	14⅝	14⅝	14⅝	14¼	14¼	13⅝	13⅝	14¼	14¼	14¼	14¼	14	14¼	14¼	14¼	14	—	—	14¼
June	—	13¾	14⅜	13⅜	13	13⅜	13⅜	—	12⅝	12¼	12¼	12¼	12¼	12¼	—	12	12	12	11⅝	11⅝	11⅞	12	12	12	12	12¼	12⅝	12⅝	12⅝	—	—	12½
July	—	12¼	12¼	12	—	10½	10¾	12	11⅜	11¼	11¼	11¼	—	11¼	11¼	11¼	11¼	10⅝	10⅝	10⅝	10¾	10¾	10⅝	10⅝	10⅝	10⅝	10⅝	10⅝	10⅝	10¾	10½	11¼
August	—	10⅝	—	—	10½	10½	10¾	10¼	10¼	10¼	10	9⅝	9⅝	9⅝	9⅝	9⅝	9⅝	9⅝	9½	9¾	9⅝	9⅝	9¾	9⅝	9⅝	9⅝	9⅝	9⅝	9⅝	—	—	10
September	—	9¾	9¾	9	9	8½	8¾	8¾	8¾	8¾	8⅜	8¾	8¾	8¾	8¾	8⅝	8⅝	8⅝	8	8	8	8	8	8	8	8	8	8	8	8	8	8¼
October	—	7½	8¼	8	—	7¾	8	8	8	7⅞	8	8	—	7⅞	8	8	7⅞	8	8	8	8	8¼	8¼	8¼	8¼	8¼	8¼	8¼	8¼	8¼	8¼	8¼
November	—	8¾	8¾	—	8¾	8¾	8¾	8¾	8¾	8½	8½	—	9½	9¾	9¾	—	9½	9⅝	9⅝	9⅝	9⅝	9¼	9¼	9¼	9¼	9¼	9¼	9¼	9¼	9¼	8⅝	9
December	—	9½	9½	9¼	9¼	9¼	—	9¾	9¾	9⅝	9⅝	9½	9¾	9⅝	9	8⅞	8¾	9	9⅜	8⅝	—	8½	8	8⅛	8½	8⅜	8⅜	8⅜	8½	8½	8⅝	8⅝
1931																																
January	—	8¾	8⅜	7⅞	—	8½	8⅜	8⅜	8⅜	8⅜	—	8⅜	8⅜	8⅜	8⅜	8⅜	8⅜	7⅞	7⅞	7⅞	8¼	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞
February	—	7¾	7⅞	7⅝	7⅝	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	—	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛	7⅛
March	—	7¾	8	8⅜	8¼	8⅛	8⅛	—	—	8	7⅞	8	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅞	7⅛	7⅛	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞
April	6⅝	6	6⅜	—	—	6¾	6¾	6⅝	6⅝	—	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝	6⅝
May	6	6	6⅜	6⅜	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼
June	6	6	6⅜	6⅜	6½	6½	6½	—	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼	6¼
July	6	6	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜	6⅜
August	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝
September	5⅛	5⅛	5⅛	5⅛	5⅛	5⅛	5⅛	5⅛	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
October	4¾	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝	4⅝
November	—	4½	4½	—	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½
December	—	4¾	4¾	4¾	4¾	4¾	—	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾
1932																																
January	—	—	—	4¾	4½	4½	4½	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾
February	—	4¾	4¾	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼	4¼
March	—	3½	3½	3½	3½	3½	—	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½	3½
April	—	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
May	—	3	3¼	3¼	3¼	3¼	4	4¼	4¼	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
June	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝
July	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼
August	4¼	4¼	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
September	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4 11/16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Spot Closing Prices—Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1925

Year	Cents	Year	Cents	Year	Cents	Year	Cents
1910	206.60	1914	65.33	1918	60.15	1922	17.50
1911	141.30	1915	65.85	1919	48.70	1923	29.45
1912	121.60	1916	72.50	1920	36.30	1924	26.20
1913	82.04	1917	72.23	1921	16.36	1925	72.46

Average Monthly Price per Pound Since 1926

Month	1926 Cents	1927 Cents	1928 Cents	1929 Cents	1930 Cents	1931 Cents	1932 Cents
Jan.	79.50	38.75	40.25	20.14	15.24	8.34	4.38
Feb.	62.25	38.25	32.75	23.97	15.85	7.70	4.03
Mar.	59.00	41.04	26.82	24.55	15.34	7.71	3.35
Apr.	51.25	40.86	18.97	21.18	14.93	6.43	3.02
May	47.75	40.76	18.99	21.46	14.24	6.49	3.09
June	42.50	37.25	19.59	20.64	12.45	6.35	2.66
July	41.03	34.87	19.40	21.30	11.24	6.37	2.89
Aug.	48.50	35.12	19.46	20.59	9.96	5.38	3.63
Sept.	41.00	33.67	18.47	20.37	8.28	5.08	—
Oct.	42.50	34.32	18.83	19.67	8.20	4.87	—
Nov.	38.50	37.58	18.26	16.62	9.01	4.65	—
Dec.	38.25	40.63	17.97	16.12	9.05	4.64	—
Average for Year	48.50	37.72	22.48	20.55	11.98	6.17	—

London Closing Prices of Ribbed Smoked Sheet

(In Pence Per Pound)

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	1 11/16	1 11/16	—	2⅞	17	1¾	—	2 7/16	—
2	1 11/16	1 11/16	2⅛	2 27/32	18	1¾	1⅞	2⅝	—
3	1 11/16	—	2 3/16	3 1/32	19	—	1⅞	2 7/16	—
4	1 11/16	1¾	2¼	—	20	1¾	1⅞	2 7/16	—
5	—	1¾	2¼	3 1/16	21	1¾	1⅞	—	—
6	1 11/16	1 13/16	2 5/32	3 11/32	22	1¾	1⅞	2 13/32	—
7	1 11/16	1 13/16	—	—	23	1¾	1⅞	2 15/32	—
8	1 11/16	1 13/16	2 9/32	—	24	1¾	1⅞	2½	—
9	1 11/16	1 13/16	2¼	—	25	1¾	—	2 11/16	—
10	1 11/16	—	2 5/16	—	26	1¾	1 5/16	2 21/32	—
11	1 11/16	1⅞	2 7/16	—	27	1 11/16	1 1/16	2 21/32	—
12	—	1⅞	2⅝	—	28	1 11/16	2 1/16	—	—
13	1 11/16	1⅞	2⅝	—	29	1¾	2 1/16	3 1/32	—
14	1⅝	1⅞	—	—	30	1¾	2 1/16	3 1/32	—
15	1 11/16	1⅞	2 7/16	—	31	—	—	2 29/32	—
16	1¾	1⅞	2½	—					

Average Monthly Price Per Pound

Month	1929 Pence	1930 Pence	1931 Pence	1932 Pence	Month	1929 Pence	1930 Pence	1931 Pence	1932 Pence
Jan.	9.942	7.471	4.160	3.052	Aug.	10.505	4.880	2.385	—
Feb.	11.875	7.948	3.823	2.760	Sept.	10.160	4.075	2.524	—
Mar.	12.135	7.595	3.822	2.047	Oct.	9.620	4.023	2.898	—
Apr.	10.490	7.391	3.082	1.876	Nov	8.442	4.440	2.890	—
May	10.717	6.926	3.035	1.825	Dec.	7.958	4.516	3.115	—
June	10.580	6.195	3.082	1.750	Average for				
July	11065	5.648	3.048	1.875	Year	10.291	5.926	3.155	—

Spot Closing Cotton Prices

(Middling Upland Grade—New York Market)

Recent Daily Price Per Pound

Day of Month	July	Aug.	Sept.	Day of Month	July	Aug.	Sept.	Day of Month	July	Aug.	Sept.
1	5.95	6.05	8.30	11	5.85	7.15	—	21	5.75	—	—
2	—	5.90	8.75	12	5.70	7.15	—	22	5.85	7.75	—
3	—	5.90	8.90	13	5.90	7.35	—	23	5.75	7.80	—
4	—	5.90	—	14	5.70	—	—	24	—	8.30	—
5	5.95	6.00	—	15	5.90	7.50	—	25	5.75	8.45	—
6	6.20	6.20	8.95	16	5.90	7.55	—	26	5.80	8.65	—
7	6.00	—	—	17	—	7.45	—	27	5.95	9.20	—
8	6.10	7.05	—	18	5.75	7.60	—	28	5.95	—	—
9	5.90	7.00	—	19	5.85	7.50	—	29	6.00	9.20	—
10	—	7.15	—	20	5.80	7.60	—	30	6.05	8.70	—
								31	—	8.40	—

Average Monthly Price Per Pound

Month	1929 Cents	1930 Cents	1931 Cents	1932 Cents	Month	1929 Cents	1930 Cents	1931 Cents	1932 Cents
Jan.	20.22	17.21	10.27	6.65	Aug.	18.62	12.03	7.21	7.43
Feb.	20.21	15.62	10.96	6.85	Sept.	18.83	12.85	6.52	—
Mar.	20.19	15.13	10.90	6.86	Oct.	18.46	10.63	6.32	—
Apr.	20.29	16.39	10.19	6.16	Nov.	17.53	10.96	6.44	—
May	19.41	16.43	9.38	5.72	Dec.	17.23	10.02	6.24	—
June	18.74	14.48	9.05	5.22	Average for				
July	18.62	13.10	9.28	5.87	Year	19.03	13.57	8.56	—

World Stocks of Crude Rubber

ON HAND OR AFLOAT TO THE U. S.

At End of	ON HAND 1930	1931	1932	AFLOAT 1930	1931	1932	ON HAND AND AFLOAT 1930	1931	1932
Jan.	121,744	209,487	322,860	61,863	56,187	42,234	193,607	265,674	365,094
Feb.	143,863	212,833	322,117	63,404	63,680	51,728	207,267	276,513	373,845
Mar.	141,843	217,804	334,566	63,646	63,133	44,190	205,489	280,937	378,756
Apr.	148,272	228,382	343,099	63,261	56,700	40,387	211,533	285,082	383,486
May	146,149	220,799	346,231	68,168	73,564	50,453	214,347	294,363	396,684
June	151,551	225,536	345,702	58,657	69,421	43,079	210,209	294,957	388,781
July	152,001	234,822	345,927	58,326	66,873	37,894	210,327	301,695	383,821
Aug.	158,604	240,816	———	61,168	61,469	———	219,772	302,285	———
Sept.	169,927	254,324	———	60,923	62,420	———	230,851	316,744	———
Oct.	185,470	273,456	———	51,122	68,427	———	236,593	341,883	———
Nov.	189,925	292,493	———	52,538	77,443	———	242,463	369,936	———
Dec.	200,998	322,826	———	56,035	53,940	———	257,033	376,766	———

(Rubber Manufacturers' Association figures raised to 100%)

STOCKS IN GREAT BRITAIN

Stocks in London

(No. of Tons in Wharves and Warehouses, including Latex)

At end of	1930	1931	1932	At end of	1930	1931	1932
Jan.	60,434	81,093	67,166	July	81,048	81,317	48,842
Feb.	64,557	82,265	65,942	Aug.	80,931	81,560	———
Mar.	68,923	84,736	64,280	Sept.	83,329	79,692	———
Apr.	74,676	86,982	61,848	Oct.	77,647	76,778	———
May	77,312	86,726	56,089	Nov.	76,887	73,911	———
June	80,260	83,071	51,009	Dec.	78,013	69,470	———

At End of Recent Weeks

	First Saturday	Second Saturday	Third Saturday	Fourth Saturday	Fifth Saturday
1932					
January	69,504	68,967	68,272	67,545	67,157
February	67,410	67,824	67,314	65,923	
March	65,459	65,121	65,014	64,461	
April	63,813	64,015	63,717	63,348	61,850
May	61,411	58,101	58,606	56,504	
June	55,535	54,636	52,636	51,785	
July	50,656	50,188	49,327	49,105	48,833
August	48,980	47,713	46,985	47,052	

Stocks in Liverpool

1932					
January	57,718	57,652	58,662	58,328	58,182
February	59,155	59,874	59,514	59,868	
March	60,288	60,776	60,922	60,775	
April	61,010	60,872	61,302	61,433	61,480
May	61,674	60,909	60,583	60,148	
June	60,119	59,551	58,601	58,441	
July	58,569	58,335	57,622	57,618	57,366
August	58,019	57,762	57,542	57,448	

STOCKS IN PENANG AND SINGAPORE

(Stocks held by Dealers—Quantities in Long Tons)

End of	1929	1930	1931	1932	End of	1929	1930	1931	1932
Jan.	29,617	39,727	48,802	48,850	July	38,859	45,459	51,203	17,017
Feb.	32,373	44,371	49,283	46,954	Aug.	30,834	48,132	48,971	———
Mar.	29,437	45,657	49,590	46,591	Sept.	32,138	44,015	47,025	———
Apr.	26,474	48,473	45,868	39,663	Oct.	33,770	39,930	52,132	———
May	30,764	44,715	44,278	38,690	Nov.	30,963	41,674	46,497	———
June	30,403	42,451	47,517	19,770	Dec.	35,548	45,963	45,795	———

STOCKS IN OTHER CENTRES

End of	Malaya Mainland	Afloat for Europe	Holland	Colombo	Para and Manaos
1931:					
July	40,377	19,960	3,111		4,548
Aug.	40,606	18,880	3,204		4,571
Sept.	37,114	16,200	3,293	2,763	4,972
Oct.	35,381	17,800	3,100		5,465
Nov.	39,193	19,570	2,799		5,506
Dec.	41,219	20,140	2,568	3,607	5,576
1932:					
Jan.	43,938	19,090	3,065		6,342
Feb.	43,695	18,920	3,093		6,641
Mar.	43,329	17,470	3,172	2,200	6,378
Apr.	42,642	15,660	3,404		6,469
May	45,422	17,870	3,427		6,438
June	43,994	18,000	3,274		5,982
July	44,599	18,000			

Rims Inspected and Passed in U. S.

(Tire and Rim Association Reports)

	Total	Per Cent Balloons		Total	Per Cent Balloons
1923	23,140,620	0.6	1927	19,700,003	79.1
1924	21,863,311	19.7	1928	24,247,282	81.6
1925	26,001,664	66.3	1929	24,141,502	80.3
1926	24,199,524	78.8	1930	17,364,096	80.1
1931			1931		
January	621,301	67.9	July	812,642	74.0
February	1,010,774	73.9	August	924,236	80.8
March	1,425,336	81.4	September	504,879	70.4
April	1,717,652	79.9	October	281,749	62.7
May	1,508,349	83.7	November	638,138	78.0
June	1,084,707	77.8	December	714,037	80.1
1932			1932		
January	810,759	89.0	July	338,725	82.2
February	726,172	84.3	August		
March	648,013	81.6	September		
April	652,126	69.8	October		
May	657,995	74.0	November		
June	499,441	82.3	December		

U. S. Tire and Tube Statistics

(All Figures Represent Thousands)

AUTOMOBILE CASINGS

Figures for Recent Years

	1924	1925	1926	1927	1928	1929	1930	1931
Production	51,633	60,845	61,237	64,439	77,944	68,726	50,965	48,739
Shipments	50,120	59,262	59,002	64,059	74,296	69,395	53,638	48,151
Inventory[2]	7,427	8,142	10,456	10,264	13,624	11,838	9,003	110,233

Figures for Recent Months

	PRODUCTION 1930	1931	1932	SHIPMENTS 1930	1931	1932	INVENTORY 1930	1931	1932
Jan.	4,485	3,675	3,462	4,406	3,744	3,253	11,925	8,957	7,912
Feb.	4,555	3,985	3,871	4,195	3,402	2,553	11,410	9,536	9,172
Mar.	4,863	4,663	3,671	4,717	4,122	2,954	12,513	10,014	9,878
Apr.	5,648	4,944	3,517	5,089	4,932	3,698	13,076	10,031	9,846
May	5,717	5,679	3,820	5,216	5,415	4,258	13,432	10,312	9,379
June	5,122	5,672	5,643	5,294	5,572	10,367	13,277	10,447	4,625
July	3,991	4,926	———	5,447	5,462	———	11,812	9,919	———
Aug.	4,166	3,906	———	5,175	4,960	———	10,848	8,896	———
Sept.	3,365	3,172	———	4,405	3,932	———	9,812	8,158	———
Oct.	3,582	2,974	———	3,499	2,852	———	9,803	8,300	———
Nov.	2,654	2,500	———	2,834	2,887	———	9,595	7,919	———
Dec.	2,814	2,643	———	3,361	2,871	———	9,003	7,744	———

AUTOMOBILE INNER TUBES

Figures for Recent Years

	1924	1925	1926	1927	1928	1929	1930	1931
Production	70,706	82,614	76,618	70,823	80,180	68,829	52,420	48,333
Shipments	68,106	81,004	71,591	72,896	77,127	70,592	54,938	50,021
Inventory[2]	11,052	11,313	16,200	13,692	16,117	12,807	9,999	112,121

Figures for Recent Months

	PRODUCTION 1930	1931	1932	SHIPMENTS 1930	1931	1932	INVENTORY 1930	1931	1932
Jan.	4,607	3,623	3,308	4,857	4,062	3,529	12,704	9,439	7,719
Feb.	4,634	3,916	3,821	4,337	3,400	2,728	13,036	9,921	8,760
Mar.	4,941	4,450	3,502	4,727	3,789	2,686	13,179	10,475	9,448
Apr.	5,510	4,617	3,225	4,848	4,636	3,385	13,784	10,413	9,441
May	5,535	5,413	3,409	5,074	5,281	3,867	13,852	10,549	8,913
June	4,950	5,358	5,279	5,265	5,397	9,243	13,612	10,504	4,929
July	3,939	4,955	———	5,855	5,831	———	11,657	9,589	———
Aug.	4,796	4,435	———	5,762	5,301	———	10,737	8,774	———
Sept.	3,817	3,449	———	4,541	4,150	———	10,065	8,095	———
Oct.	3,951	3,077	———	3,472	2,813	———	10,517	8,321	———
Nov.	2,680	2,443	———	2,788	2,594	———	10,313	8,119	———
Dec.	3,060	2,597	———	3,412	2,767	———	9,999	7,922	———

(1) Rubber Manufacturers' Association figures, raised to 100%. The Association estimates its figures to be 75% complete up until 1929 and 80% complete beginning with 1929, and that basis has been accepted when preparing the statistics in this table.

(2) Held by manufacturers at end of period indicated.

Automobile Production

	United States Total	Passenger Cars	Trucks	Canada Total	Passenger Cars	Trucks	Grand Total
1926	4,298,799	3,808,753	490,046	205,002	164,483	40,609	4,503,891
1927	3,393,887	2,988,868	453,019	179,426	146,850	32,556	3,573,313
1928	4,357,384	3,826,613	530,771	242,382	196,737	45,645	4,599,944
1929	5,358,420	4,587,400	771,020	263,295	207,498	55,797	5,621,715
1930	3,355,986	2,814,452	540,534	154,192	125,442	28,750	3,510,178
1931							
Jan.	171,848	138,317	33,531	6,496	4,552	1,944	178,344
Feb.	219,940	180,419	39,521	9,871	7,529	2,342	229,811
Mar.	276,405	231,244	45,161	12,993	10,483	2,510	289,398
Apr.	336,939	285,693	50,015	17,159	14,043	3,116	354,098
May	317,163	269,420	45,695	12,738	10,621	2,117	329,901
June	250,640	208,158	41,304	6,385	5,583	1,252	257,475
July	218,490	183,107	35,854	4,220	3,151	1,069	222,710
Aug.	187,197	155,425	31,772	4,544	3,426	1,118	191,741
Sept.	140,566	109,228	31,338	2,646	2,108	538	143,212
Oct.	80,142	58,415	21,727	1,440	761	679	81,582
Nov.	68,867	49,184	19,683	1,247	812	435	70,114
Dec.	121,533	97,897	23,636	2,432	408	2,024	123,965
Total	2,389,730	1,973,090	416,640	82,621	63,477	19,144	2,472,351
1932							
Jan.	119,344	98,785	20,541	3,731	3,112	619	123,075
Feb.	117,418	94,110	23,308	5,477	4,494	983	126,621
Mar.	118,959	99,399	19,560	8,318	6,604	1,714	127,277
May	185,149	157,756	27,933	8,221	7,269	952	193,370
June	183,092	160,330	27,754	7,112	6,308	804	190,204
July	111,139	94,705	16,434	7,472	6,773	699	118,611

Exports of Crude Rubber from Principal Producing Countries

(Long Tons)

	BRITISH MALAYA[1]							DUTCH EAST INDIES[5]						
	Gross Exports	Gross Exports Minus Imports	Imports	Ceylon[2]	India & Burma[3]	Sarawak[4]	British North Borneo[4]	Siam[4]	Java & Madura	Sumatra E. Coast	Other D.E.I.	Indo-China[3]	Amazon Valley	All Other[6]	World Total[7]
1923	252,016	70,432	181,584	39,971	6,416	5,705	4,237	1,718	32,930	46,344	57,822	5,067	16,765	7,856	406,415
1924	259,706	108,524	151,182	39,997	7,697	6,699	4,621	2,962	42,446	54,497	80,347	6,688	23,165	9,065	429,366
1925	316,825	158,022	158,803	49,566	10,082	5,424	5,377	5,377	46,757	65,499	120,626	7,881	25,298	13,797	514,487
1926	391,328	151,243	240,085	58,962	9,874	9,155	6,079	4,027	52,186	71,413	121,231	8,203	24,298	16,017	621,530
1927	371,322	182,845	188,477	55,356	11,321	10,923	6,582	5,472	55,297	77,815	142,171	8,645	28,782	15,633	606,474
1928	409,430	149,787	259,643	57,267	10,790	10,087	6,698	4,813	58,848	82,511	121,770	9,548	21,129	10,690	653,794
1929	574,836	163,092	411,744	81,584	11,663	11,077	7,381	5,018	65,990	87,789	134,037	9,696	21,148	6,767	853,894
1930	547,043	133,876	413,167	76,970	10,782	10,309	6,781	4,251	69,755	79,396	115,254	7,665	14,260	5,651	814,241
1931:															
Jan.	41,579	11,029	30,550	7,039	1,315	770	542	424	5,923	7,348	10,328	1,218	994	295	66,746
Feb.	41,951	9,672	32,279	6,365	1,041	945	542	409	4,869	7,206	9,001	1,018	1,271	217	65,163
Mar.	48,589	12,009	36,580	5,881	1,209	930	542	536	5,434	7,104	11,258	1,233	1,338	430	72,475
Apr.	43,453	9,977	33,476	4,333	641	788	455	340	6,473	6,063	8,759	327	629	333	62,617
May	44,281	10,479	33,802	4,242	622	869	455	413	7,373	6,799	10,955	793	1,110	382	67,815
June	39,397	12,115	27,282	5,098	1,086	1,138	455	337	5,856	6,696	11,380	1,019	621	351	61,319
July	43,658	11,995	31,663	4,517	715	801	536	316	6,671	7,511	10,711	859	1,565	186	66,051
Aug.	42,882	9,063	33,769	3,763	406	692	535	210	6,397	7,044	8,641	1,097	856	241	63,651
Sept.	44,336	8,369	35,967	4,029	169	701	535	218	5,577	7,358	8,389	917	745	183	64,788
Oct.	45,911	9,955	35,956	5,547	286	872	500*	338	8,086	7,882	9,547	934	1,284	238	71,467
Nov.	48,012	9,529	38,483	4,609	408	830	500*	390	7,351	8,174	7,981	731	872	238	70,562
Dec.	35,741	11,314	24,427	6,346	572	1,115	500*	287	5,942	8,562	9,059	1,550	836	203	59,399
1932:															
Jan.	44,538	10,304	34,234	4,570	732	756	500*	457	5,155	8,815	8,703	1,248	831	199	66,200
Feb.	42,008	8,008	34,000	4,472	803	696	500*	334	4,814	6,011	6,325	1,096	352	203	59,606
Mar.	39,903	6,658	33,245	3,405	284	501	500*	217	4,946	6,863	6,252	928	715	77	57,933
Apr.	36,670	4,682	31,988	3,046	365	459	500*	130	6,722	6,090	4,856	913	487	99	55,655
May	40,297	5,677	34,620	4,140	304	595	500*	118	6,552	6,551	6,013	949	416	278	61,036
June	36,566	5,665	30,901	3,620	359	481	500*	166	5,610	7,516	5,507	1,231	394	139	56,424
July	40,723	5,346	35,377	3,125	99	442	500*	184	5,779	6,257	6,145	974	232	141	59,255
Aug.	39,367			5,585											

(1) Malayan net exports cannot be taken as production, since imported rubber is largely wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 115 tons in 1923, 1,117 in 1924, 3,618 in 1925, 3,263 in 1926, 2,489 in 1927, 1,437 in 1928, 2,670 in 1929, and 1,274 in 1930. (2) Ceylon Chamber of Commerce statistics until 1926; rubber exported as latex is not included—such shipments were equivalent to 18 tons in 1923, 93 tons 1924, 6 tons 1925, 20 tons 1926, about ½ ton in 1927, and 1 ton in 1928, and practically none in 1929, 1930 and 1931. (3) Official statistics. (4) Imports into Singapore and Penang. (5) Exports from "Other D.E.I." are chiefly wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 2,342 tons in 1923, 1,008 tons 1924, 2,239 tons 1925, 44 tons in 1926, 84 tons in 1927, 1,459 tons in 1928, 1,302 tons in 1929, and 2,656 tons in 1930. (6) Calculated from official import statistics of principal consuming countries, viz., United States, United Kingdom, France, Germany, Belgium and Netherlands, and includes guayule rubber. (7) This total includes the third column for British Malaya, "Gross Exports minus Imports," and all the figures shown for the other territories. *Figure is provisional; final figure will be shown when available.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States[1]	United Kingdom	France (h)	Germany	Canada (ac)	Japan (da)	Italy	Russia (ce)	Australia (cd)	Belgium (d)	Netherlands	Scandinavia (abcdf)	Spain (g)	Czechoslovakia (abcd)	World Total
1919	238,407	42,671	17,685	5,584	6,395	9,753	9,894	75	1,002	3,995	2,771	3,149	2,418	9	343,808
1920	249,530	56,844	13,885	11,890	11,746	5,297	6,123	62	1,815	3,840	5,510	2,292	2,008	567	371,409
1921	179,736	42,087	15,135	21,920	8,124	21,713	3,904	165	1,014	1,705	1,022	1,279	2,245	569	309,628
1922	296,594	11,724	24,352	27,546	9,207	15,934	6,430	2,493	2,643	172	—3,807	1,778	589	567	396,222
1923	301,527	12,700	27,392	18,519	13,277	15,372	8,489	2,986	1,649	2,184	792	2,528	630	1,128	409,173
1924	319,103	—11,550	30,446	22,727	14,299	19,571	8,764	2,346	3,124	2,688	—807	3,178	944	1,370	416,203
1925	385,596	4,061	32,956	33,937	19,683	11,117	11,412	7,088	4,757	2,930	875	3,149	1,155	1,558	520,274
1926	399,981	84,865	34,240	22,775	20,229	18,126	9,809	6,529	9,021	2,498	2,670	4,046	1,299	1,870	617,957
1927	403,472	60,249	34,271	38,892	26,405	20,521	11,381	12,018	9,490	6,482	636	4,224	2,055	2,672	632,768
1928	407,572	4,846	36,498	37,855	30,447	25,621	12,433	15,134	8,430	7,958	2,243	4,418	3,178	3,138	599,771
1929	528,608	122,675	55,093	49,275	35,453	34,284	17,169	11,774	15,886	9,445	3,022	6,440	864	4,650	894,638
1930	458,036	120,069	68,503	45,488	28,793	33,039	18,639	16,387	5,354	10,635	2,924	7,710	2,400	4,468	822,445
1931:															
Jan.	34,873	9,730	5,954	3,847	1,709	2,861	1,036	1,775	601	986	348	464	240	635	65,059
Feb.	32,572	12,226	4,510	3,374	1,927	3,264	1,393	1,022	495	785	157	476	201	366	62,768
Mar.	37,960	12,335	4,386	3,545	3,012	2,323	418	2,531	435	862	346	400	392	507	69,452
Apr.	42,212	9,440	4,346	3,054	2,070	3,478	528	1,450	457	515	333	495	208	324	68,910
May	33,271	8,212	2,880	3,231	2,748	3,755	1,023	1,034	884	1,153	86	495	180	711	58,663
June	43,730	5,636	4,002	3,504	2,112	2,988	1,462	3,279	1,112	1,058	272	577	207	607	70,546
July	42,293	5,366	3,301	3,226	2,592	3,065	809	3,141	627	1,507	41	429	145	1,074	67,816
Aug.	36,709	5,030	3,393	2,889	2,304	3,780	912	3,137	283	955	—57	321	160	413	60,129
Sept.	37,571	5,468	4,420	4,227	1,535	5,556	693	2,335	269	1,015	191	571	99	499	64,449
Oct.	39,820	5,775	3,909	3,220	1,567	3,980	571	4,076	765	792	185	710	193	695	66,258
Nov.	43,659	2,550	2,669	2,621	1,283	3,340	545	2,417	934	729	183	745	297	954	62,876
Dec.	51,323	4,402	2,696	2,950	2,452	5,093	859	4,474	787	652	135	677	283	932	77,715
1932:															
Jan.	32,028	3,248	2,588	3,303	1,746	5,782	627	3,258	622	521	479	840	462	197	55,701
Feb.	26,483	5,930	2,898	4,356	1,723	6,781	1,189	2,931	758	506	500	708	313	306	55,382
Mar.	43,361	3,585	2,482	3,436	2,588	5,398	1,423	2,745	1,211	721	112	456	359	644	68,521
Apr.	36,326	6,826	2,956	3,737	1,600	3,684	1,083	764	1,549	847	348	474	417	1,259	61,870
May	32,818	1,110	2,277	3,447	1,416	3,917	1,033	3,743	2,048	617	286	707	272	350	54,041
June	39,136	1,853	3,666	3,405	2,834	2,834			1,421	449	127	578	196	280	
July	30,494	4,081	3,125	3,380	1,529						—214				

a—Including gutta percha. b—Including balata. c—Re-exports not deducted in monthly statistics. d—Including some scrap and reclaimed rubber. e—Official statistics of rubber imports by Soviet Russia. f—Including Norway, Sweden, Denmark and Finland. g—United Kingdom and French exports to Spain except in years prior to 1925. h—French imports have been reduced 12 per cent in order to eliminate imports of gutta percha and to reduce to basis of net weight. [1]United States imports of guayule are included in this compilation. *Figure is provisional; final figure will be shown immediately it becomes available.

Domestic Production of Miscellaneous Rubber Goods

	Rubber Proofed Fabrics	Rubber Heels	Rubber Soles	Mechanical Goods Shipments
	Yards	Pairs	Pairs	Dollars
1924	25,020,000	186,279,000	(1)	$45,615,000
1925	23,988,000	206,970,000	16,211,620(2)	64,877,000
1926	29,328,000	183,312,000	12,253,000	76,789,000
1927	37,872,000	201,014,000	27,160,000	68,625,000
1928	41,179,000	235,176,000	37,645,000	69,114,000
1929	50,731,000	232,126,000	34,499,000	74,770,000
1930	42,681,000	178,659,000	29,514,000	58,465,000
1931:				
July	3,337,000	15,361,000	2,864,000	3,706,000
August	3,787,000	16,293,000	2,933,000	3,356,000
September	4,692,000	15,827,000	2,880,000	3,015,000
October	4,112,000	14,567,000	2,610,000	2,678,000
November	2,529,000	11,455,000	2,340,000	2,300,000
December	2,074,000	14,188,000	3,639,000	2,281,000
1932:				
January	2,184,000	12,317,000	3,411,000	2,463,000
February	2,448,000	14,487,000	3,461,000	2,446,000
March	2,463,000	16,368,000	3,953,000	2,638,000
April	2,092,000	11,737,000	2,292,000	2,613,000
May	1,748,000	10,259,000	2,488,000	2,542,000
June	2,243,000			

(1) Not available; (2) Last 9 months only.
Source: "Survey of Current of Business of the Department of Commerce."

United States Imports of Guayule, Balata, Jelutong, Liquid Latex

(All quantities in Long Tons)

	Guayule		Balata		Jelutong		Liquid Latex (1)	
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
1919	1,430	760,690	727	937,038	8,332	2,213,964	—	—
1920	758	845,985	1,064	1,260,043	5,672	2,068,501	—	—
1921	58	26,945	814	1,077,859	1,745	351,893	—	—
1922	127	57,040	812	978,765	2,335	403,812	—	—
1923	1,155	542,227	700	898,524	4,565	853,308	—	—
1924	1,356	536,392	464	568,456	6,165	1,287,100	2,157	864,059
1925	3,781	1,803,448	517	574,750	6,749	1,642,531	3,853	3,537,810
1926	4,305	2,562,096	354	327,213	7,263	3,127,757	3,388	4,680,386
1927	5,018	2,674,957	582	447,246	7,785	2,448,657	1,116	876,077
1928	3,075	1,755,685	731	430,855	7,552	2,540,059	4,167	2,185,579
1929	1,231	545,175	725	566,964	8,203	2,458,136	3,728	1,787,997
1930	1,096	347,388	501	422,684	5,907	1,403,244	4,449	1,506,804
1931	——	——	1,208	411,692	5,777	1,019,010	4,650	884,355
1931:								
Apr.	—	——	219	69,284	676	140,309	372	73,867
May	—	——	120	44,025	205	36,086	318	82,202
June	—	——	245	79,786	681	123,616	706	129,496
July	—	——	67	20,777	331	64,493	583	104,868
Aug.	—	——	73	30,207	652	100,536	364	60,358
Sept.	—	——	126	35,174	407	65,232	439	72,443
Oct.	—	——	100	13,846	415	75,219	267	43,238
Nov.	—	——	36	11,539	276	50,062	265	40,649
Dec.	—	——	93	37,815	643	62,557	282	41,771
1932:								
Jan	—	——	54	14,095	633	81,396	331	40,613
Feb.	—	——	100	24,702	558	84,914	439	52,183
Mar.	—	——	114	20,628	460	59,299	391	44,585
Apr.	—	——	46	10,909	317	44,165	551	46,397
May	—	——	42	9,863	566	68,028	141	27,449
June	—	——	38	9,483	330	47,077	309	28,800
July	—	——	26	7,934	372	52,116	218	37,327

(1) Latex import figures not available before 1924.

Reclaimed Rubber in the United States

(All Quantities in Long Tons)

		Consumption					Consumption		
Year	Production	Tons	% to Crude	Stocks*	Year	Production	Tons	% to Crude	Stocks*
1921	36,725	41,351	24.1	.....	1926	180,582	164,500	45.9	23,218
1922	57,334	54,458	19.3	.....	1927	189,144	178,471	47.6	24,980
1923	74,766	69,534	22.7	.....	1928	208,516	223,000	50.4	24,785
1924	80,079	76,072	22.4	.....	1929	218,954	226,588	48.4	27,464
1925	132,930	137,105	35.6	18,203	1930	157,967	153,497	40.8	22,000
1931:									
Jan.	10,349	10,728	37.6	22,420	July	11,393	11,447	35.8	17,720
Feb.	10,871	10,800	37.5	18,878	Aug.	10,110	9,972	36.2	17,165
Mar.	12,988	12,524	38.3	18,875	Sept.	9,629	8,932	37.6	17,226
Apr.	13,267	11,745	35.0	18,356	Oct.	9,482	8,126	36.6	17,741
May	13,478	13,103	34.6	18,088	Nov.	7,892	7,492	32.6	17,662
June	14,066	13,045	34.4	18,505	Dec.	8,876	6,812	31.8	19,257
1932:									
Jan.	8,753	8,440	30.2	18,712	July	5,417	5,131	18.1	16,333
Feb.	8,731	8,332	27.7	18,659	Aug.				
Mar.	8,613	7,420	26.7	19,721	Sept.				
Apr.	5,561	5,555	21.6	21,525	Oct.				
May	5,024	6,070	20.8	18,889	Nov.				
June	5,923	7,031	18.0	16,870	Dec.				

*Stocks on hand at the end of month or year. Exports of reclaimed rubber, not shown in this table, amounted to 8,540 tons in 1927, 9,577 tons in 1928, and 12,369 tons in 1929.
(Rubber Manufacturers' Association figures raised to 100%)

REVIEW DESK

Books, New Publications, Catalogues, Etc.

EMPLOYES' SUGGESTION SYSTEM. Published by the Policyholders Service Bureau. Metropolitan Life Insurance Company. New York. 1932. 24 pp. For free distribution.

Many business organizations have found that the executive and supervisory staff is not the only source of ideas of value to the company. The close contacts of the workers with particular operations of the business frequently enables them to supply ideas and suggestions of direct benefit to the company. To capitalize upon this practical experience and specialized knowledge, the employee suggestion system has been adopted with considerable success by a number of organizations. Through some form of organized suggestion plan, workers are encouraged to look for possible improvements in the operation of the business to present their ideas so that, if practicable, they may be adopted by the management.

This new report discusses the methods used by representative industrial companies to obtain worthwhile suggestions from their personnel. The report is based on a study of the systems of more than 100 organizations, and describes the outstanding features of these plans. Several rubber companies are included in the organizations contributing to this study.

Referring to the benefits of employees' suggestions, the study states that "they have been found to result in savings in operating costs, increased production, extension of business, improved operating methods, and better working conditions." The effect which the actual adoption of satisfactory suggestions has upon the general morale of workers, in tending to make the latter realize that they are holding a recognized place in the business, is considered of more than ordinary importance by a number of organizations.

NATIONAL DIRECTORY OF COMMODITY SPECIFICATIONS. Bureau of Standards. U. S. Department of Commerce. 1932. 548 pp. $1.75. Second Revised Edition.

In it are listed by title, designating number, and sponsoring organization, standards and methods of test for all commodities regularly produced in this country. Each specification is also briefly summarized as to technical characteristics, scope, and special applications. These special features will aid the user of the Directory to select specifications suited to his particular needs, and will make it indispensable to all large buyers whether Federal, State, municipal, or other.

The enumeration of standards and specifications covered in this publication is limited to those adopted by national, technical, and trade associations and those agencies which speak with the authority of the Federal Government as a whole. The subjects and titles are grouped in accordance with a decimal system of classification, are adequately cross referenced, and are provided with a comprehensive index which facilitates rapid reference.

In the index are listed many rubber products and the national specifications adopted as standards in their manufacture.

TEMPERATURE CONTROLLERS. Published by the Foxboro Company, Foxboro, Mass. Bulletin No. 177. 48 pp. For free distribution.

The pamphlet contains valuable information on temperature control and its use in industrial processes. The section on bulbs, charts, valves and accessories should be of particular interest to users of instruments. The booklet is fully illustrated.

ZINC OXIDE INCORPORATION IN THE BANBURY MIXER. Published by the New Jersey Zinc Company in conjunction with the Farrel-Birmingham Company. 1932. 12 pp. For free distribution.

Much attention has been given to the dispersion of zinc oxide in rubber in the Banbury mixer and, with the cooperation of Farrel-Birmingham Company and several rubber manufacturers, there has been gathered together available information in handy form in this booklet.

To obtain uniformly satisfactory results considerable attention to procedure is necessary. The booklet deals with such matters as the temperature at which the mixing operation is carried out, the rate of addition of zinc oxide, and the preparation of the rubber prior to mixing the master batches.

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